

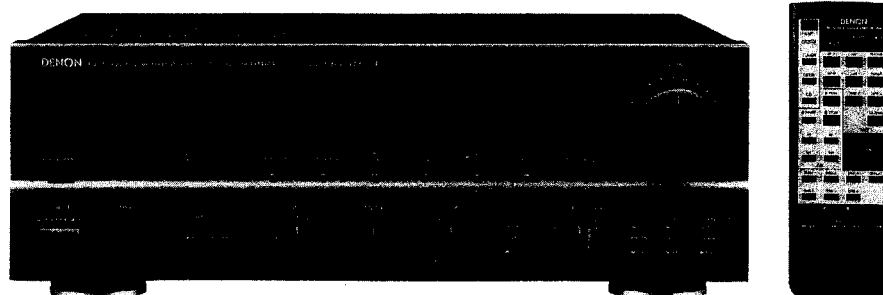
DENON

Hi-Fi Integrated Stereo Amplifier

SERVICE MANUAL

MODEL PMA-880R

INTEGRATED STEREO AMPLIFIER



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NIPPON COLUMBIA CO., LTD.



CAUTION

**RISK OF ELECTRIC SHOCK
DO NOT OPEN**



CAUTION: TO REDUCE THE RISK OF ELECTRIC SHOCK, DO NOT REMOVE COVER (OR BACK). NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.



The lightning flash with arrowhead symbol, within an equilateral triangle, is intended to alert the user to the presence of uninsulated "dangerous voltage" within the product's enclosure that may be of sufficient magnitude to constitute a risk of electric shock to persons.



The exclamation point within an equilateral triangle is intended to alert the user to the presence of important operating and maintenance (servicing) instructions in the literature accompanying the appliance.

WARNING: TO REDUCE THE RISK OF FIRE OR ELECTRIC SHOCK, DO NOT EXPOSE THIS APPLIANCE TO RAIN OR MOISTURE.

• FOR U.S.A. & CANADA MODEL ONLY

CAUTION

TO PREVENT ELECTRIC SHOCK DO NOT USE THIS (POLARIZED) PLUG WITH AN EXTENSION CORD, RECEPTACLE OR OTHER OUTLET UNLESS THE BLADES CAN BE FULLY INSERTED TO PREVENT BLADE EXPOSURE.

• POUR LE MODELE CANADIEN UNIQUEMENT

ATTENTION

POUR PREVENIR LES CHOCs ELECTRIQUES NE PAS UTILISER CETTE FICHE POLARISEE AVEC UN PROLONGATEUR UNE PRISE DE COURANT OU UNE AUTRE SORTIE DE COURANT, SAUF SI LES LAMES PEUVENT ETRE INSEREES A FOND SANS EN LAISSER AUCUNE PARTIE A DECOUVERT.

• NUR FÜR EUROPÄISCHE MODELLE

Konformitätserklärung

Die DENON Electronic GmbH
Hatskestraße 32
4030 Ratingen 1

Erklärt als Hersteller/Importeur, daß das in dieser Bedienungsanleitung beschriebene Gerät den Technischen Vorschriften für Ton- und Fernseh-Rundfunkempfänger nach der Amtsblattverfügung 868/1989 (Amtsblatt des Bundesministers für Post und Telekommunikation vom 31. 8. 1989) entspricht.

• FOR UNITED KINGDOM MODEL ONLY

CONNECTING THE MAINS PLUG:

This unit operates from a 240V ac 50 Hz mains supply.

Fit a proper mains plug to the mains lead of this equipment. If a 13 amp (BS1363) plug is used, a 5 amp fuse must be fitted. The 13 amp fuse supplied in a new plug must NOT be used. If any other type of plug is used, a 5 amp fuse must be fitted either in the plug or adaptor or at the distribution board.

IMPORTANT

The wires in the mains lead are coloured in accordance with the following code:

Blue: Neutral
Brown: Live

As the colours of the wires in the mains lead of this apparatus may not correspond with the coloured markings identifying the terminals in your plug, proceed as follows:

The wire which is coloured BLUE must be connected to the terminal which is marked with the letter N or coloured black.

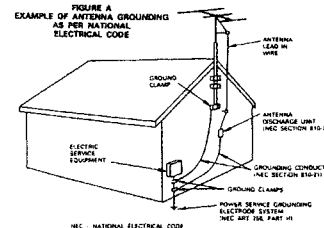
The wire which is coloured BROWN must be connected to the terminal which is marked with the letter L or coloured red.

DO NOT MAKE ANY CONNECTION TO THE LARGER PIN MARKED WITH THE LETTER E OR BY THE SYMBOL \equiv OR COLOURED GREEN OR GREEN-AND-YELLOW.

Disconnect the mains plug from the supply socket when not in use.

SAFETY INSTRUCTIONS

1. Read Instructions – All the safety and operating instructions should be read before the appliance is operated.
2. Retain Instructions – The safety and operating instructions should be retained for future reference.
3. Heed Warnings – All warnings on the appliance and in the operating instructions should be adhered to.
4. Follow Instructions – All operating and use instructions should be followed.
5. Water and Moisture – The appliance should not be used near water – for example, near a bathtub, washbowl, kitchen sink, laundry tub, in a wet basement, or near a swimming pool, and the like.
6. Carts and Stands – The appliance should be used only with a cart or stand that is recommended by the manufacturer.
- 6A. An appliance and cart combination should be moved with care. Quick stops, excessive force, and uneven surfaces may cause the appliance and cart combination to overturn.
7. Wall or Ceiling Mounting – The appliance should be mounted to a wall or ceiling only as recommended by the manufacturer.
8. Ventilation – The appliance should be situated so that its location or position does not interfere with its proper ventilation. For example, the appliance should not be situated on a bed, sofa, rug, or similar surface that may block the ventilation openings; or, placed in a built-in installation, such as a bookcase or cabinet that may impede the flow of air through the ventilation openings.
9. Heat – The appliance should be situated away from heat sources such as radiators, heat registers, stoves, or other appliances (including amplifiers) that produce heat.
10. Power Sources – The appliance should be connected to a power supply only of the type described in the operating instructions or as marked on the appliance.
11. Grounding or Polarization – Precautions should be taken so that the grounding or polarization means of an appliance is not defeated.
12. Power-Cord Protection – Power-supply cords should be routed so that they are not likely to be walked on or pinched by items placed upon or against them, paying particular attention to cords at plugs, convenience receptacles, and the point where they exit from the appliance.
14. Cleaning – The appliance should be cleaned only as recommended by the manufacturer.
15. Power Lines – An outdoor antenna should be located away from power lines.
16. Outdoor Antenna Grounding – If an outside antenna is connected to the receiver, be sure the antenna system is grounded so as to provide some protection against voltage surges and built-up static charges. Article 810 of the National Electrical Code, ANSI/NFPA 70, provides information with regard to proper grounding of the mast and supporting structure, grounding of the lead-in wire to an antenna-discharge unit, size of grounding conductors, location of antenna-discharge unit, connection to grounding electrodes, and requirements for the grounding electrode. See Figure A.
17. Nonuse Periods – The power cord of the appliance should be unplugged from the outlet when left unused for a long period of time.
18. Object and Liquid Entry – Care should be taken so that objects do not fall and liquids are not spilled into the enclosure through openings.
19. Damage Requiring Service – The appliance should be serviced by qualified service personnel when:
 - A. The power-supply cord or the plug has been damaged; or
 - B. Objects have fallen, or liquid has been spilled into the appliance; or
 - C. The appliance has been exposed to rain; or
 - D. The appliance does not appear to operate normally or exhibits a marked change in performance; or
 - E. The appliance has been dropped, or the enclosure damaged.
20. Servicing – The user should not attempt to service the appliance beyond that described in the operating instructions. All other servicing should be referred to qualified service personnel.



NOTE:

1. Always keep the POWER switch on the main unit turned on.
2. Turn the power on and off from the remote control unit.
3. Unplug the power cord when you do not plan to use the unit for a long period of time.

CAUTION:

If only the MUTE/STANDBY LED is lit, this means that the power is turned off from the remote control unit. Turn the power on from the remote control unit.

HINWEIS:

1. Lassen Sie den Netzschalter (POWER) am Hauptgerät stets eingeschaltet.
2. Schalten Sie den Strom mit dem Fernbedienungsgerät ein-und aus.
3. Trennen Sie das Netzkabel vom Netz ab, wenn Sie beabsichtigen, das Gerät über einen längeren Zeitraum hinweg nicht zu benutzen.

VORSICHT:

Wenn nur das Stummschalt-/Bereitschafts-LED (MUTE/STANDBY) leuchtet, so bedeutet dies, daß der Strom vom Fernbedienungsgerät aus ausgeschaltet worden ist. Schalten Sie den Strom vom Fernbedienungsgerät aus ein.

REMARQUE:

1. S'assurer que le commutateur d'alimentation (POWER) sur l'unité principale soit toujours dans la position activée.
2. Allumer et éteindre l'appareil avec la télécommande.
3. Débrancher le cordon d'alimentation lorsque l'appareil ne sera pas utilisé pendant une longue période.

ATTENTION:

Si seul le témoin (LED) de sourdine/veille (MUTE/STANDBY) est allumé, cela signifie que l'appareil est mis hors circuit par la télécommande. Allumer l'appareil avec la télécommande.

NOTA:

1. Tenete sempre l'interruttore della corrente (POWER) dell'unità principale nella posizione di attivazione.
2. Accendete e spegnete la corrente usando il telecomando.
3. Scollegate il filo di alimentazione quando avete intenzione di non usare l'apparecchio per un lungo periodo.

AVVISO:

Se sono illuminati solo i LED di attenuazione/attesa (MUTE/STANDBY), questo significa che la corrente è stata spenta con il telecomando. Riaccendete la corrente usando il telecomando.

PRECAUTIONS FOR INSTALLATION

Leave at least 10cm of space between this unit and any other component placed above.

SICHERHEITSMASSNAHMEN BEIM EINBAU

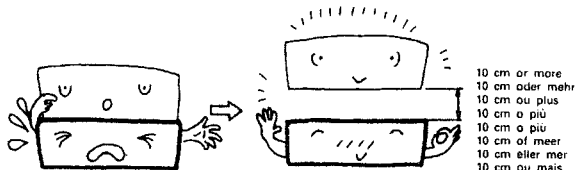
Lesen einen Mindestabstand von 10 cm zwischen diesem Gerät und anderen Komponente, die daraufgestellt wird.

PRECAUTIONS D'INSTALLATION

Prevoir un espace d'au moins 10cm entre l'unité et tout autre appareil se trouvant au-dessus.

PRECAUZIONI PER L'INSTALLAZIONE

Lasciate uno spazio libero di almeno 10 cm fra quest'unità e qualsiasi altro componente che è collocato sopra la stessa.



NOTA:

1. Mantenga siempre activado el interruptor de alimentación (POWER) en la unidad principal.
2. Encienda y apague el equipo desde la unidad de control remoto.
3. Cuando la unidad vaya a estar fuera de uso por un periodo prolongado de tiempo, desconecte el cable de alimentación.

PRECAUCION:

Cuando sólo el indicador LED de silenciamiento/modo de espera (MUTE/STANDBY) está encendido, significará que la alimentación a la unidad ha sido desconectada desde la unidad de control remoto. Conecte la alimentación desde la unidad de control remoto.

OPMERKING:

1. Zorg er altijd voor dat de stroomschakelaar (POWER) van het hoofdstel in de ingeschakelde stand staat.
2. Schakel de stroom in en uit m.b.v. de afstandsbediening.
3. Trek het netsnoer uit wanneer u denkt het toestel gedurende een lange periode niet te gebruiken.

WAARSCHUWING:

Indien enkel de dempings-(MUTE)/STANDBY LED brandt, betekent dit dat de spanning met de afstandsbediening is uitgeschakeld. Schakel de spanning in met de afstandsbediening.

OBSERVA:

1. Låt alltid strömbrytaren (POWER) på huvudenheten vara påslagen.
2. Slå till/från strömmen med hjälp av fjärrkontrollen.
3. Koppla loss nätkabeln om apparaten inte skall användas under lång tid.

OBSERVA:

Om endast MUTE/STANDBY-lampen lyser betyder det att strömmen har stängts av via fjärrkontrollen. Strömmen måste då slås på via fjärrkontrollen igen.

NOTA:

1. Mantenha o interruptor da Corrente (POWER) na unidade principal sempre ligada.
2. Ligue e desligue a corrente a partir da unidade de controle remoto.
3. Desconecte o fio de força quando intente não utilizar a unidade por longo tempo.

PRECAUÇÃO:

Se apenas se iluminar o LED de surdina/espera (MUTE/STANDBY), isto significa que a força se desligou a partir do controle remoto. Ligue a força a partir do controle remoto.

PRECAUCIONES PARA LA INSTALACION

Deje por lo menos 10 cm. de espacio entre esta unidad y cualquier otro componente situado sobre ella.

VOORZORGSMAATREGELEN

Bij plaatsing dient u een ruimte van minstens 10 cm open te laten tussen dit toestel en een ander erop geplaatst component.

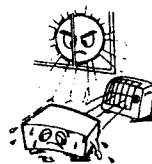
FÖRSIKTIGHETSÅTGÄRDER VID INSTALLATIONEN

Se till att det finns minst 10 cm mellanrum mellan apparaten och en annan apparat som ställs ovanpå.

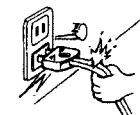
CUIDADOS NA INSTALAÇÃO

Deixe um espaço de pelo menos 10 cm entre esta unidade e qualquer outro componente colocado acima.

NOTE ON USE/HINWEISE ZUM GEBRAUCH/OBSERVATIONS RELATIVES A L'UTILISATION NOTE SULL'USO/NOTAS SOBRE EL USO/ALVORENS TE GEBRUIKEN/OBSERVERA OBSERVAÇÕES QUANTO AO USO



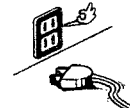
- Avoid high temperatures
Allow for sufficient heat dispersion when installed on a rack.
- Vermijden Sie hohe Temperaturen
Besuchen Sie, daß eine ausreichende Luftzirkulation gewährleistet wird, wenn das Gerät auf ein Regal gestellt wird.
- Evitar das temperaturas elevadas
Tenir compte d'une dispersion de chaleur suffisante lors de l'installation sur une étagère.
- Evitate di esporre l'unità a temperature alte
Assicuratevi che ci sia un'adeguata dispersione del calore quando installate l'unità in un mobile per componenti audio.
- Evite altas temperaturas
Permite la suficiente dispersión del calor cuando está instalado en la consola.
- Verijdig hoge temperaturen
Zorg voor een degelijk hitteafvoer indien het apparaat op een rek wordt geplaatst.
- Undvik höga temperaturer
Se till att det finns möjlighet till god värmeavledning vid monteringen i ett rack.
- Evite temperaturas altas
Conceda suficiente dispersão de calor quando o equipamento for instalado numa prateleira.



- Handle the power cord carefully.
Hold the plug when unplugging the cord.
- Gehen Sie vorsichtig mit dem Netzkabel um.
Halten Sie das Kabel am Stecker, wenn Sie den Stecker herausziehen.
- Manipuler le cordon d'alimentation avec précaution.
Tenir la prise lors du débranchement du cordon.
- Maneggiare il filo di alimentazione con cura.
Agitare per la spina quando scollegate il cavo dalla presa.
- Maneje el cordón de energía con cuidado.
Sostenga el enchufe cuando desconecte el cordón de energía.
- Hanterar het netsnoer voorzichtig.
Houd het snoer bij de stekker vast wanneer deze moet worden aan- of losgekoppeld.
- Hantera nätkabeln varsamt.
Håll i kabeln när den kopplas från eluttaget.
- Manuseie com cuidado o fio condutor de energia.
Segure a tomada ao desconectar o fio.



- Keep the set free from moisture, water, and dust.
- Halten Sie das Gerät von Feuchtigkeit, Wasser und Staub fern.
- Protéger l'appareil contre l'humidité, l'eau et la poussière.
- Tenete l'unità lontana dall'umidità, dall'acqua e dalla polvere.
- Mantenga el equipo libre de humedad, agua y polvo.
- Laat geen vochtigheid, water of stof in het apparaat binnendringen.
- Utsätt inte apparaten för fukt, vatten och damm.
- Mantenha o aparelho livre de qualquer umidade, água ou poeira.



- Unplug the power cord when not using the set for long periods of time.
- Wenn das Gerät eine längere Zeit nicht verwendet werden soll, trennen Sie das Netzkabel vom Netzstecker.
- Débrancher le cordon d'alimentation lorsque l'appareil n'est pas utilisé pendant de longues périodes.
- Disinnestare il filo di alimentazione quando avete l'intenzione di non usare il filo di alimentazione per un lungo periodo di tempo.
- Desconecte el cordón de energía cuando no utilice el equipo por mucho tiempo.
- Neem altijd het netsnoer uit het stopcontact wanneer het apparaat gedurende een lange periode niet wordt gebruikt.
- Koppla ur nätkabeln om apparaten inte kommer att användas i lång tid.
- Desligue o fio condutor de força quando o aparelho não tiver que ser usado por um longo período.



(For sets with ventilation holes)

- Do not obstruct the ventilation holes.
Die Belüftungöffnungen dürfen nicht verdeckt werden.
- Ne pas obstruer les trous d'aération.
Non coprire i fori di ventilazione.
- No obstruya los orificios de ventilación.
De ventilatieopeningen mogen niet worden beblokeerd.
- Tapp inte till ventilationsöppningarna.
- Não obstrua os orifícios de ventilação.



- Do not let foreign objects in the set.
- Keine fremden Gegenstände in das Gerät kommen lassen.
- Ne pas laisser des objets étrangers dans l'appareil.
- E' importante che nessun oggetto è inserito all'interno dell'unità.
- No deje objetos extraños dentro del equipo.
- Laat geen vreemde voorwerpen in dit apparaat vallen.
- Se till att främmande föremål inte tränger in i apparaten.
- Não deixe objetos estranhos no aparelho.

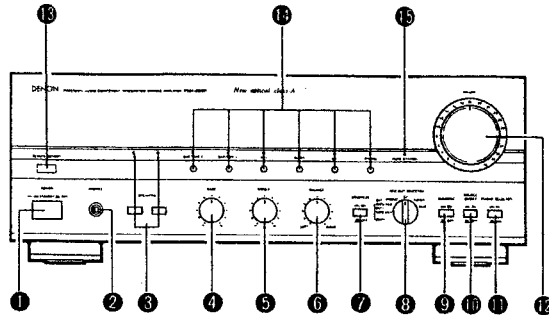


- Do not let insecticides, benzene, and thinner come in contact with the set.
- Lassen Sie das Gerät nicht mit Insektiziden, Benzin oder Verdünnungsmitteln in Berührung kommen.
- Ne pas mettre en contact des insecticides, du benzène et un diluant avec l'appareil.
- Assicuratevi che l'unità non venga in contatto con insetticidi, benzolo o solventi.
- No permita el contacto de insecticidas, gasolina y diluyentes con el equipo.
- Laat geen insectenverdelgende middelen, benzine of verververdunder met dit apparaat in contact komen.
- Se till att inte insektsmedel på spraybruk, bensin och thinner kommer i kontakt med apparatens hölje.
- Não permita que inseticidas, benzina e dissolvente entrem em contato com o aparelho.

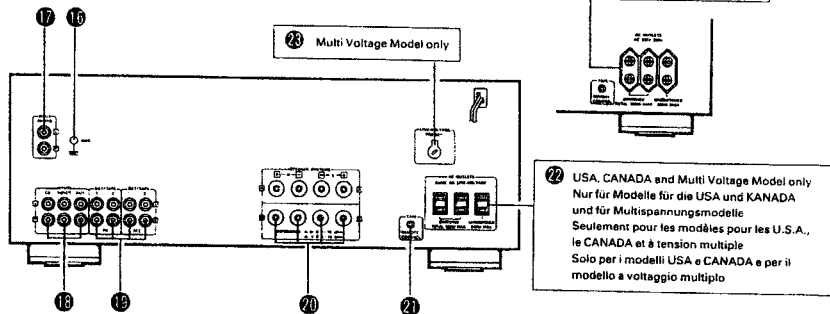


- Never disassemble or modify the set in any way.
- Versuchen Sie niemals das Gerät auseinander zu nehmen oder auf jegliche Art zu verändern.
- Ne jamais démonter ou modifier l'appareil d'une manière ou d'une autre.
- Non smontate mai, né modificate l'unità in nessun modo.
- Nunca desarme o modifique el equipo de ninguna manera.
- Nooit dit apparaat demonteren of op andere wijze modifieren.
- Ta inte isär apparaten och försök inte bygga om den.
- Nunca desmonte ou modifique o aparelho de alguma forma.

FRONT PANEL
FRONTPLATTE
PANNEAU AVANT
PANNELLO ANTERIORE



REAR PANEL
RÜCKWAND
PANNEAU ARRIERE
PANNELLO POSTERIORE



- 25 LINE VOLTAGE (Voltage select switch) . . . For Multi-voltage model only.
- * The desired voltage may be set with the VOLTAGE SELECTOR KNOB on the back panel using a screw driver.
 - * Do not twist the VOLTAGE SELECTOR KNOB with excessive force. It may be damaged.
 - * If the voltage select switch does not turn smoothly, see qualified serviceman.

12 GND	11 PHONO	10 CD, TUNER, AUX	9 DAT/TAPE-1, DAT/TAPE-2 • TAPE PB • TAPE REC	8 SPEAKERS	7 TAPE/REMOTE CONTROL
GND	Phono Input Terminals (Phono)	Input Terminals (CD, TUNER, AUX)	Playback and Recording Terminals • Playback Terminals • Recording Terminals	Speaker Terminals	Tape deck Remote control jack
GND	Schallplatten-Spieler-Eingangsbuchsen (Phono)	Eingangsbuchsen (CD, TUNER, AUX)	Tonband-Ein/Ausgänge • Wiedergabe • Aufnahme	Lautsprecherklemmen	Tapedeck-Fernbedienungs-Buchse
GND	Bornes d'entrée (Phono)	Bornes d'entrée (CD, TUNER, AUX)	Bornes de lecture et d'enregistrement • Bornes de lecture • Bornes d'enregistrement	Bornes de haut-parleurs	Prise de télécommande de magnétocassette
GND	Terminali di ingresso Phono	Terminali di ingresso (CD, TUNER, AUX)	Terminali di riproduzione registrazione • Terminali di riproduzione • Terminali di registrazione	Terminali degli altoparlanti	Pressa di controllo a distanza della piastra

CONNECTIONS
ANSCHLÜSSE
CONNEXIONS
CONNESSIONI

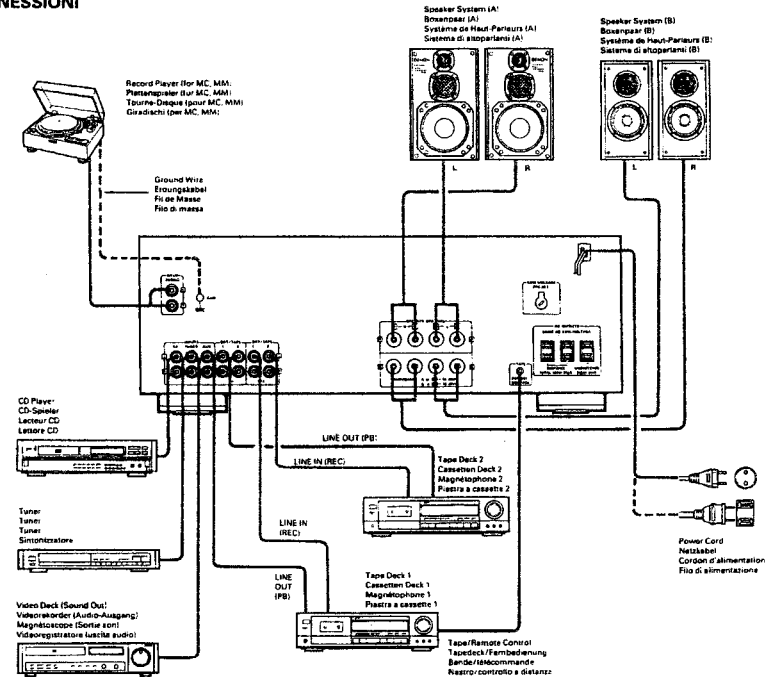


Fig. 2
Abb. 2

Fig. 1
Abb. 1

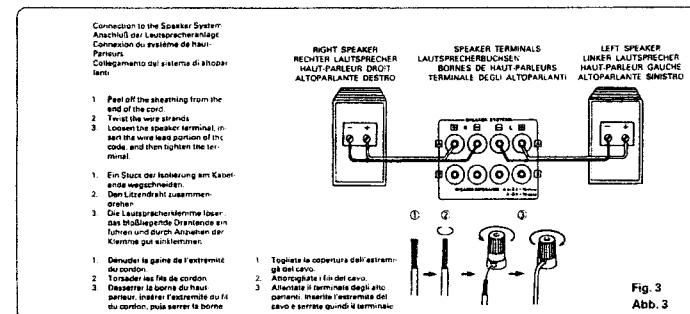


Fig. 3
Abb. 3

DESIGNATIONS AND FUNCTIONS OF PANEL CONTROLS

1 POWER (Power Switch)

When the power switch is turned ON (), the MUTE/STANDBY LED () lights.
When the power switch is turned ON, power is supplied to the unit. It takes a few seconds after the power is turned on for the unit to warm up. This is due to the built-in muting circuit that eliminates noise during the on/off operation.

2 PHONES (Headphone Jack)

This jack is used to plug in the headphones.

3 SPEAKERS (Speaker Selection Switch)

The PMA-880R can be connected to two speaker systems: speaker system A and speaker system B.
When A is pressed, its LED lights and the speaker system connected to speaker output terminals A operates. When A is pressed again, its LED goes out and the speaker system A can not operate.
When B is pressed, its LED lights and the speaker system connected to speaker output terminals B operates. When B is pressed again, its LED goes out and the speaker system B can not operate.

4 BASS (Bass Control)

This knob is used to control the bass quality of the sound. When the knob is set at the center position, the frequency characteristics are flattened in the range below 1000 Hz. The bass is emphasized as the knob is moved off center to the right (), and reduced as it is moved to the left (). When volume control () is set to the right of the center position, the effect of the other controls is reduced.

5 TREBLE (Treble Control)

This knob is used to control the treble quality of the sound. When the knob is set at the center position, the frequency characteristics are flattened in the range above 1000 Hz. The treble is emphasized as the knob is moved off center to the right (), and reduced as it is moved to the left (). When volume control () is set to the right of the center position, the effect of the other controls is reduced.

6 BALANCE (Balance Control)

This knob is used to adjust the balance between the left and right channels. When it is set to the center position, the amplitude of the amplifier is equal on both sides. If there is a difference in the left and right channel output voltages for a cartridge, move the knob to the left and the right to adjust it. If the volume on the right side is too low, turn the knob to the right (). If the volume on the left side is too low, turn the knob to the left (). This will achieve an even balance on the left and right sides.

7 LOUDNESS (Loudness Switch)

When the volume is low, it is difficult for the human ear to clearly distinguish notes in the low and high frequency ranges. The loudness switch allows a simple "one-touch" correction of this difficulty. Press the loudness switch ON () when listening to music at a low volume. The low notes and high notes will be corrected to produce a natural sound.

8 REC OUT SELECTOR (Rec Out Select Switch)

Use this switch to select the recording component.

- PHONO: Used to recording from the turntable.
- CD: Used to recording from the CD player.
- TUNER: Used to recording from the tuner.

- AUX: Used to recording component that connected to the AUX terminal.

- DAT/TAPE-1 ▶ 2: Used to recording from the tape deck connected to the DAT/TAPE-1 jacks.

- DAT/TAPE-2 ▶ 1: Used to recording from the tape deck connected to the DAT/TAPE-2 jacks.

9 SUBSONIC (Subsonic Filter Switch)

Use to prevent subsonic speaker vibration due to vibration of the player motor or a warped record, etc., when playing a connected player.

10 SOURCE DIRECT (Source Direct Switch)

Set this switch to ON will cause the input signal to by-pass the LOUDNESS (), SUBSONIC (), BASS (), TREBLE (), BALANCE () circuits (regardless of the settings of these controls) and be input directly to the VOLUME () control to prevent loss of sound quality.

11 PHONO SELECTOR (Cartridge Selection Switch)

This switch is set according to the type of player cartridge to be used.

- MC (): Used when an MC (moving-coil) cartridge with an output of less than 0.5 mV is used.
- MM (): Used when an MM (moving-magnet) cartridge with an output of 2 mV or more is used.

12 VOLUME (Volume Control)

This knob controls the overall volume level. Turn the knob to the right () to raise the volume and to the left () to lower it.

13 REMOTE SENSOR (Remote Control Sensor)

This sensor receives the infra-red light transmitted from the wireless remote control unit.
For remote control, point the wireless remote control unit towards the sensor.

14 INPUT SELECTOR (Input Select Switch)

Use these to select the program source.
When the button for the desired program source is selected, its LED lights. One program source only can be selected at a time, as follows:

- PHONO: Use this position when using the record player connected to the PHONO jacks. Use the PHONO SELECTOR () to switch the sensitivity to correspond to the cartridge type being used.
- CD: Used to listen a compact disc player or other component that is connected to the CD terminal.
- TUNER: Used to play a component such as an FM/AM tuner or a TV tuner that is connected to the TUNER terminal.
- AUX: Used to play a component such as a Hi Fi video player, TV tuner, 8-track tape player or tape deck that is connected to the AUX terminal.

- DAT/TAPE-1: Use this Position when using the tape deck, etc., connected to the DAT/TAPE-1 jacks.

- DAT/TAPE-2: Use this Position when using the tape deck, etc., connected to the DAT/TAPE-2 jacks.

15 MUTE/STANDBY LED

This LED flashes while the muting circuit is activated when the power is turned on and when muting is turned on from the remote control unit, and remains lit (without flashing) while the power is on.

16 TAPE/REMOTE CONTROL (Tape Deck Remote Control Jack): Rear Panel Side

Remote control of a connected DENON cassette deck is enabled by connecting the tape deck remote control lead to this jack. The jack is a mini-jack designed to accept a 3.5 mm plug.

NOTE: Do not connect headphones or a microphone to this jack. Use this jack only to connect a DENON cassette deck with a remote control jack (wired).

17 AC OUTLETS: Rear Panel Side

- For U.S.A., Canada and Multi-voltage models.
AC outlets are used for connecting amplifier component units, such as tuner, turntable, tape deck, etc.

- SWITCHED (Total capacity: 120 W):
These outlets are turned ON/OFF when main power switch and POWER button on the Remote Control Unit is turned on/off.

- UNSWITCHED (Capacity: 240 W)
This outlet is always ON whether power switch is on or OFF.

- For Europe model, except the U.K. and Australia models.
AC outlets are used for connecting amplifier component units, such as tuner, turntable, tape deck, etc.

- SWITCHED (Total capacity: 100 W):
These outlets are turned ON/OFF when main power switch and POWER button on the Remote Control Unit is turned on/off.

- UNSWITCHED (Capacity: 100 W)
This outlet is always ON whether power switch is on or OFF.

OPERATION

PREPARATION

1. CHECKING CONNECTIONS

- Make sure that all the connections are proper by referring to the back panel. (Fig. 1, 2, 3)
- Check the polarity (positive and negative) of connections, and the directivity of stereo separation (right cord to right channel terminal, and left cord to left channel terminal).
- Check the directivity of pin cord connection.

2. SETTING OF EACH KNOB

- Turn the volume control knob counterclockwise, to "0".
- Set the rotary knob to "flat".
- Set LOUDNESS, SUBSONIC and SOURCE DIRECT to "OFF" ().

After checking the above items, turn on the power.

PLAYING A RECORD

1. Set the INPUT SELECTOR switch to "PHONO".
2. Operate the turntable and play the record.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

PLAYBACK OF CD PLAYER

1. Set the INPUT SELECTOR switch to "CD".
2. Operate the CD player.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

RECEPTION OF RADIO PROGRAMS

1. Set the INPUT SELECTOR switch to "TUNER".
2. Operate the tuner to receive a radio program.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

CONNECTIONS OF AUDIO EQUIPMENT TO AUX TERMINALS

1. Set the INPUT SELECTOR switch to "AUX" Position.
2. Operate the Audio equipment Systems.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

PLAYBACK WITH TAPE DECK

1. Set the INPUT SELECTOR switch to "DAT/TAPE-1" or "DAT/TAPE-2".
2. Operate the Tape Deck.
3. Turn the volume and tone controls to yield an appropriate volume and sound quality.

RECORDING WITH TAPE DECK

1. Set the REC OUT SELECTOR to the program source you wish to record.
2. Start the playback of the program source.
3. Start recording with the component connected to "DAT/TAPE-1" or "DAT/TAPE-2".
- In the PMA-880R, the REC OUT signal and the speaker or headphone signal are output via separate circuits so that knobs and switches related to the tone and volume have no effect whatsoever on the sound that is recorded. Also, since the recording function is selected by the REC OUT SELECTOR, the free program source can be played through the speakers (or headphones) even during recording.

MONITORING THE RECORDING

A recording in progress can be monitored if a tape deck with three individual heads for recording and playback is used. A tape deck in which a common head is used for both recording and playback cannot be used to monitor recording. When a recording is being made using DAT/TAPE-1, selecting DAT/TAPE-1 with the INPUT SELECTOR will engage the RECORDING MONITOR and permit a check of the recording condition.

CAUTION

Protective Circuit

This set is equipped with a high speed protective circuit. This circuit protects the internal circuitry from damage due to large currents flowing when the speaker jacks are not completely connected or when an output is generated by a short circuit. This protective circuit's operation cuts off the output to the speakers. In such a case, be sure to turn the power to the set off and check the connections to the speakers. Then turn the power on again. After muting for several seconds, the set will operate normally.

NOTE

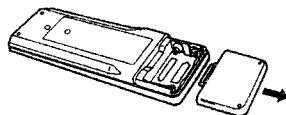
- This amplifier has a full memory back-up system. When the power is turned on, SPEAKERS (), INPUT SELECTOR () are set to the last mode set before the power was turned off.

REMOTE CONTROL OPERATION

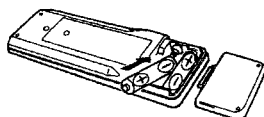
The accessory Remote Control Unit is used to control the amplifier from a convenient distance.

(1) Inserting the Dry Cell Batteries

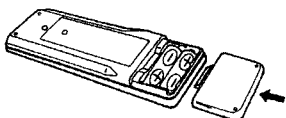
1. Remove the battery cover on the Remote Control Unit.



2. Insert two dry cell batteries as shown in the diagram on the battery supply unit.



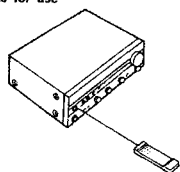
3. Replace the battery cover.



Notes on Battery Usage

- RC-156 uses the size R6P (AA) dry cell batteries.
- The batteries will need to be replaced approximately once a year. This will depend upon how often the Remote Control Unit is used.
- If, in less than a year from the time new batteries were inserted, the Remote Control Unit fails to operate the Amplifier from a near-by position, it is time to replace the batteries.
- Insert the batteries properly, following the polarity diagram inside the battery compartment.
- Batteries are prone to damage and leakage. Therefore:
 - Do not mix new batteries with used ones.
 - Do not mix different types of batteries.
 - Do not jumper opposite poles of the batteries, expose them to heat, break them open, nor expose them to open fire.
- If the batteries have leaked, remove any traces of battery fluid from the battery compartment wiping thoroughly with a dry cloth. Then insert new batteries.

(2) Directions for use



- Operate the Remote Control Unit while pointing it towards the Remote Control Sensor on the Amplifier as shown in the diagram on the left.
- The Remote Control Unit can be used at distances up to about 8 meters in a straight line from the amplifier. This distance will decrease if there are obstructions blocking the infra-red light transmission or if the Remote Control Unit is not directed straight at the amplifier.

Note on operation

- Do not press the operating buttons on the Amplifier and the Remote Control Unit at the same time. This will cause misoperation.
- Operation of the Remote Control Unit will become less effective or erratic if the infrared Remote Control Sensor on the Amplifier is exposed to strong light or if there are obstructions between the Remote Control Unit and the sensor.
- In case you operate a VCR, TV or other components by remote control, do not operate buttons on two different remote control units at the same time. This will cause misoperation.

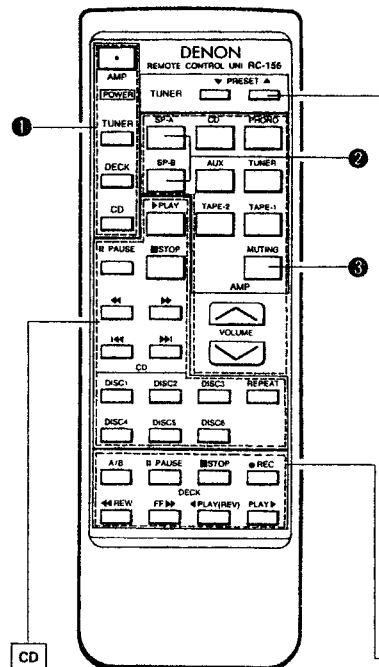
Besides being able to operate the PMA-880R amplifier with this Remote Control Unit, you can also operate a DENON cassette deck and CD player from this handy full-system Remote Control Unit.

Remote control section

Full-system Remote Control Unit

The full-system Remote Control Unit operates all major functions of the Amplifier, such as function switching, volume control. But that's not all! The same control pad can also control the major functions of a DENON CD player and cassette deck and tuner when combined with the PMA-880R to create a remarkably ergonomic and versatile DENON system with all the quality sound reproduction that the devoted audiophile expects.

Remote Control Unit RC-156 supplied with the PMA-880R



1 [POWER] buttons

These buttons can be used to turn on and off the power of the various components, including the amplifier, tuner, cassette tape deck, CD player, etc. However, the power for these components can only be turned on and off if they are in the power standby mode and the power cord is plugged in.

This button will not function if there is a power failure, if the power cord is not plugged in, or when using an audio timer.

For some components, these buttons will not turn the power on and off. Read the manuals for the components before using the buttons.

2 SP-A and SP-B buttons

These control the speaker selector switches on the PMA-880R. The switches turn on, off, then back on each time they are pressed.

3 MUTE button

Pressing this switch will activate the muting condition and no signals will be output to the speakers.

Other buttons

Other buttons are exclusively for the PMA-880R, and function in the same way as the corresponding buttons on the set.

TUNER

PRESET X buttons

Press this button to move up or down among the preset station numbers.

DECK

▶ PLAY	PLAY button
■ STOP	STOP button
◀◀	Reverse Track Search button
▶▶	Forward Track Search button
◀◀	Manual Search Reverse button
▶▶	Manual Search Forward button
PAUSE	PAUSE button

▶ PLAY	PLAY button
◀◀ PLAY (REV)	PLAY (REV) button
■ STOP	STOP button
◀◀ REW	REWIND button
FF ▶▶	FF button
● REC	Refer to the operating instructions of your DENON tape deck.
PAUSE	A/B DECK SELECT button
A/B W-DECK	

- The RC-156 Remote Control Unit can control all CD players (excluding the DCD-1800R) and cassette decks manufactured by DENON.
- Buttons are conveniently separated into groups, each group controlling one specific component. The groups are AMP, FUNCTION, CD DECK and TUNER etc.

For details on operating other components, refer to the operating instructions for the CD player and/or cassette deck.

CAUTION:

- If the power is turned off with the Remote Control Unit, the set is switched to the power stand-by state. If you are absent for a long period of time, unplug the power cord.
- On the MUTE/STANDBY LED lights when in the power stand-by mode.
- You may experience erratic operation of the Remote Control Unit if it is operated in fluorescent light and direct sunlight, in particular if this light strikes the Remote Control Sensor on the Amplifier. However, this is not a malfunction, and if this should happen, simply protect the sensor against such light.

Technical Data (typical values)	Technische Daten (typische werte)	Caractéristiques techniques (valeurs caractéristiques)	
• POWER AMPLIFIER SECTION Rated Output Power: *Both channel driven (8 ohm Load) 20 Hz to 20 kHz, T.H.D. 0.02% (4 ohm Load) DIN, 1 kHz, T.H.D. 0.7% *2Continuous 75W per channel min into 8 ohms from 20 Hz to 20 kHz with no more than 0.02% total harmonic distortion Total Harmonic Distortion: (-3 dB at rated output, 8 ohms) • PRE AMPLIFIER SECTION Rated Output: (Recut Terminal) Input Sensitivity/ Input Impedance: The value in parentheses () refers to the input impedance when SOURCE DIRECT is ON. PHONO: CD, TUNER, AUX TAPE-1, TAPE-2: RIAA Deviation: PHONO: Within ± 0.3 dB Maximum Input: • OVERALL CHARACTERISTICS SN Ratio (IHF A Network): (input terminals short-circuited) SOURCE-DIRECT: ON Tone Control Adjustable Range: BASS: TREBLE Loudness: Subsonic Filter: OTHERS Power Supply AC Outlets Switched x2: Unswitched x1: Power Consumption Dimensions (W) x (H) x (D) Net Weight REMOTE CONTROL UNIT (RC-156) Remote control system: Infrared pulse system Power supply: 3V DC, Two size R6P ("AA") dry cell batteries External dimensions: Weight: 	• LEISTUNGSENDS VERSTÄRKER Nenn-Ausgangsleistung: *Beide Kanäle betriebsbereit (an 8 Ohm) 20 Hz bis 20 kHz, T.H.D. 0.02% (an 4 Ohm) DIN, 1 kHz, T.H.D. 0.7% *2Fortlaufend 75W pro Kanal min. zu 8 Ohm von 20 Hz bis 20 kHz mit einem Gesamtklirfaktor von nicht mehr als 0.02% Gesamtklirfaktor: (-3 dB bei Nennausgang, 8 Ohm) • VORVERSTÄRKER Nenn-Ausgangsleistung: (Aufnahme-Ausgangsbuchse) Eingangsempfindlichkeit/ Eingangsimpedanz: Der in Klammern () angegebene Wert bezieht sich auf die Eingangsimpedanz, wenn der Quellen-Direktschalter (SOURCE DIRECT) eingeschaltet (ON) ist. PHONO: CD, TUNER, AUX TAPE-1, TAPE-2: Abweichung von der RIAA-Kennlinie: PHONO: Innerhalb ± 0.3 dB Maximaler Eingang: • GESAMTEIGENSCHAFTEN Signal/Rauschabstand (IHF-A-Weiche): (Eingänge kurzgeschlossen) SOURCE DIRECT: ON Klangregelbereich: TIEFEN (BASS) HOHEN (TREBLE) Gehörliche Lautstärke: Unterschall-Schaltung: • SONSTIGES Netzspannung und -frequenz Wechselstrom-Ausgänge Geschaltet x2: Ungeschaltet x1: Leistungsaufnahme Abmessungen (B) x (H) x (T) Nettogewicht FERNBEDIENUNGSGERÄT (RC-156) Fernbedienungs-System: Infrarot-Impulse Stromversorgung: 3V Gleichstrom, zwei Trockenzellen- Batterien vom Format R6 (AA) Äußere Abmessungen: Gewicht: 	• PARTIE AMPLIFICATEUR DEPUISANCE Puissance nominale: *Entraînement deux canaux (charge 8 ohms) 20 Hz à 20 kHz, D.H.T. 0.02% (charge 4 ohms) DIN, 1 kHz, D.H.T. 0.7% *275W en continu par canal sur min. 8 ohms de 20 Hz à 20 kHz avec une distorsion harmonique totale de 0.02% ou moins Distorsion harmonique totale: (-3 dB à la sortie nominale, 8 ohms) • PRE AMPLI Puissance nominale: (Borne de sortie d'enregistrement) Sensibilité d'entrée/ impédance d'entrée: La valeur entre parenthèses () se rapporte à l'impédance d'entrée lorsque le touche de source directe (SOURCE DIRECT) est sur la position sous tension (ON). PHONO: CD, TUNER, AUX TAPE-1, TAPE-2: Variation RIAA: PHONO: Int. ± 0.3 dB Entrée max.: • CARACTERISTIQUES GÉNÉRALES Rapport signal/bruit (réseau IHF A): (Bornes d'entrée court-circuitées) SOURCE DIRECT: ON Gamme de réglage de tonalité: GRAVES AIGUES Compensation physiologique: Filtre subsonique: • AUTRES Alimentation Prises secteur (AC) Commutées x2: Non commutées x1: Consommation Dimensions (L) x (H) x (D) Poids UNITÉ DE TÉLÉCOMMANDE (RC-156) Système de télécommande: Système à impulsion infrarouge Alimentation: 3V CC, deux piles sèches de format R6P ("AA") Dimensions extérieures: Poids: 	75W + 75W 120W + 120W 75W 0.007% 150 mV MM 2.5 mV/47 kohm MC 200 μ V/100 ohm 150 mV/47 kohm (150 mV/10 kohm) 20 Hz ~ 20 kHz PHONO MM 160 mV/1 kHz MC 12mV/1 kHz PHONO: MM: 94 dB (at 5 mV input) MC: 76 dB (at 0.5 mV input) CD, TUNER, AUX TAPE-1, TAPE-2: 110 dB 100 Hz ± 8 dB 10 kHz ± 8 dB 100 Hz ± 7 dB 10 kHz ± 6 dB 16 Hz, 12 dB/oct. AC230V/60 Hz (For Europe) AC240V/60 Hz (For U.K. and Australia) AC120V/60 Hz (For U.S.A. and Canada) AC110/120/220/240V, 50/60 Hz (For Multiple) 100W (Total) (For Europe model, except the U.K. model) 120W (Total) (For U.S.A., Canada and Multi-Voltage models) 100W (For Europe model, except the U.K. model) 240W (For U.S.A., Canada and Multi-Voltage models) 230W (IEC) 4.2A (U.S.A., and Canada models) 180W (Multi-Voltage model) 434(W) x 160(H) x 353(D)mm (17-3/32" x 6-19/64" x 13-57/64") 8.2 kg (18 lbs 2 oz) 60mm (2-3/16") W x 176mm (6-9/16") H x 18mm (45/64") D 120 g (about 4.2 oz) (including batteries)

Note: *1 For Europe
 *2 For U.S.A., Canada and Multi-Voltage

Hinweis: *1 Für Europa
 *2 Für U.S.A., Canada und Mehrfach-Spannung

Note: *1 Pour l'Europe
 *2 Pour les États-Unis, le Canada et les pays multi-tensions

• Specifications and contents are subject to change without notice for purposes of improvement.
 • Änderungen des Inhalts und der technischen Daten zum Zwecke der Verbesserung vorbehalten.
 • Specifications et contenu sont sujets à modification sans préavis.

ENGLISH

Please check to make sure the following items are included with the main unit in the carton:

- (1) Operating Instructions 1
- (2) Remote Control Unit (RC-156) 1
- (3) Batteries R6P (AA) 2

DEUTSCH

Bitte überprüfen Sie, ob die folgenden Teile vollständig in der Verpackung enthalten sind:

- (1) Bedienungsanleitung 1
- (2) Fernbedienung (RC-156) 1
- (3) Batterien vom Typ R6P (AA) 2

FRANÇAIS

Veuillez contrôler que les articles suivants sont bien joints à l'appareil principal dans le carton:

- (1) Mode d'emploi 1
- (2) Unité de télécommande (RC-156) 1
- (3) Piles R6P (AA) 2

ITALIANO

Controllare che le parti seguenti si trovino imballate con l'apparecchio nella scatola di spedizione.

- (1) Libretto delle istruzioni 1
- (2) Telecomando (RC-156) 1
- (3) Batterie R6P (AA) 2

ESPAÑOL

Por favor verifique asegurándose de que los siguientes artículos son empacados en la caja pero separados de la unidad principal.

- (1) Manual de instrucciones 1
- (2) Unidad de control remoto (RC-156) 1
- (3) Piles R6P (AA) 2

NEDERLANDS

Kontroleer of de volgende accessoires bij het hoofdtoestel in de doos zijn verpakt:

- (1) Gebruiksaanwijzing 1
- (2) Afstandsbediening (RC-156) 1
- (3) Batterijen R6P (AA) 2

SVENSKA

Kontrollera att följande, förutom huvudapparaten, finns med i kartongen.

- (1) Bruksanvisning 1
- (2) Fjärrkontroll (RC-156) 1
- (3) Batterier R6P (AA) 2

PORTUGUÊS

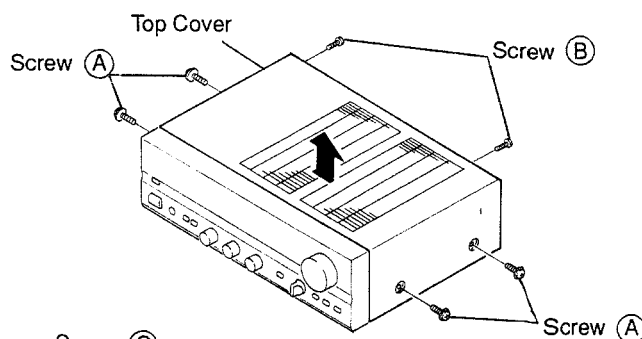
Certifique-se de que as seguintes peças estão incluídas na embalagem fora da unidade principal:

- (1) Instruções de operação 1
- (2) Unidade de controle remoto (RC-156) 1
- (3) Baterias R6P (AA) 2

REMOVAL OF EACH SECTION

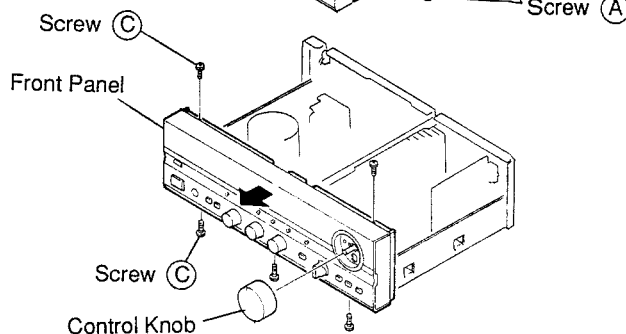
● Top Cover

- 1) Remove 4 screws (A) and 2 screws (B).
- 2) Pull up Top Cover in arrow direction.



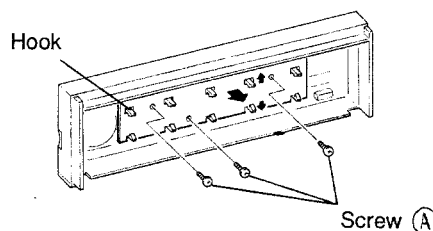
● Front Panel

- 1) Remove Control Knob and 5 screws (C).
- 2) Detach Front Panel in arrow direction.



● Microcomputer Printed Wiring Board.

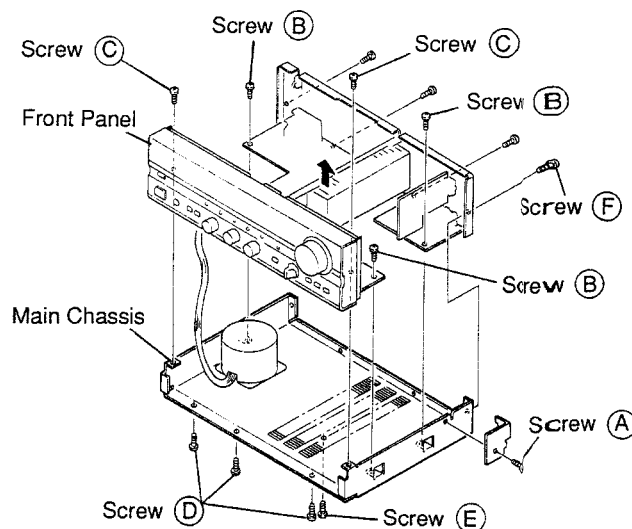
- 1) Remove 3 screws (A).
- 2) Detach P.W.B., expanding 10 hooks outwards.



● Main Chassis

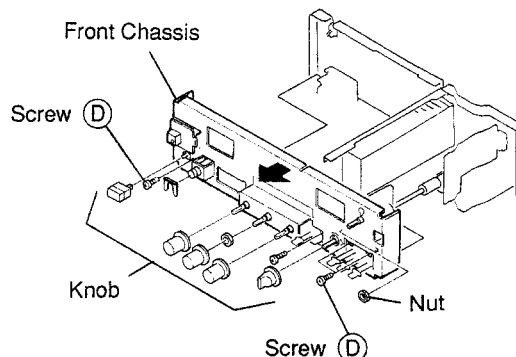
- 1) Remove 1 screw (A) securing Bracket with MAIN CHASSIS.
- 2) Remove 3 screws (B) securing P.W.B. with MAIN CHASSIS.
- 3) Remove 2 screws (C) securing FRONT CHASSIS with MAIN CHASSIS.
- 4) Remove 3 screws (D) securing FRONT PANEL with MAIN CHASSIS.
- 5) Remove 1 screw (E) securing Main CHASSIS with POWER RADIATOR.
- 6) Remove 4 screws (F) securing REAR PANEL with MAIN CHASSIS.

NOTE Then, by pulling up, FRONT PANEL, POWER RADIATOR, P.W.B., REAR PANEL will be detached as a whole. However, wire on POWER TRANS still remains connected ; therefore make repairing on detached CHASSIS side-up.

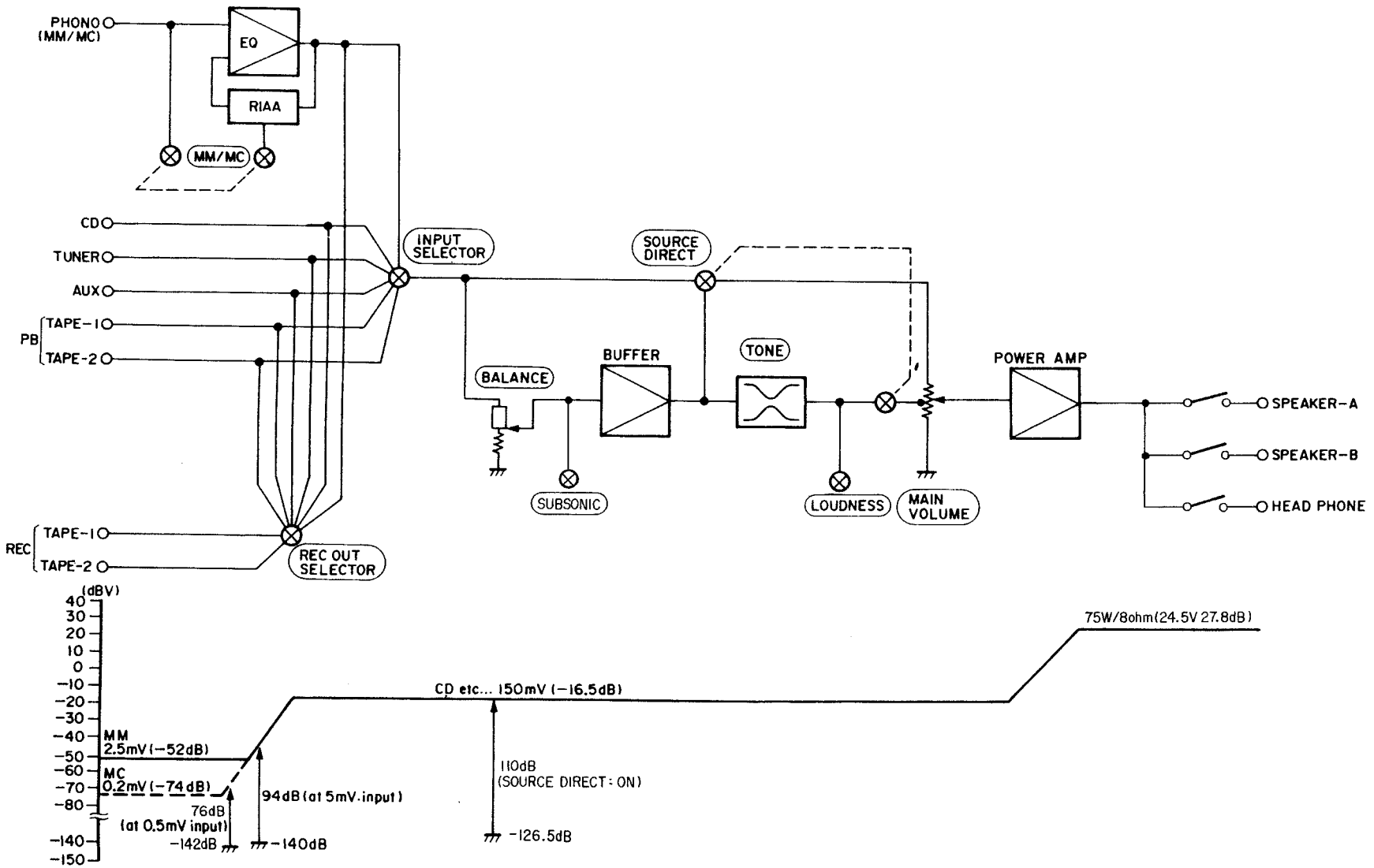


● Front Chassis

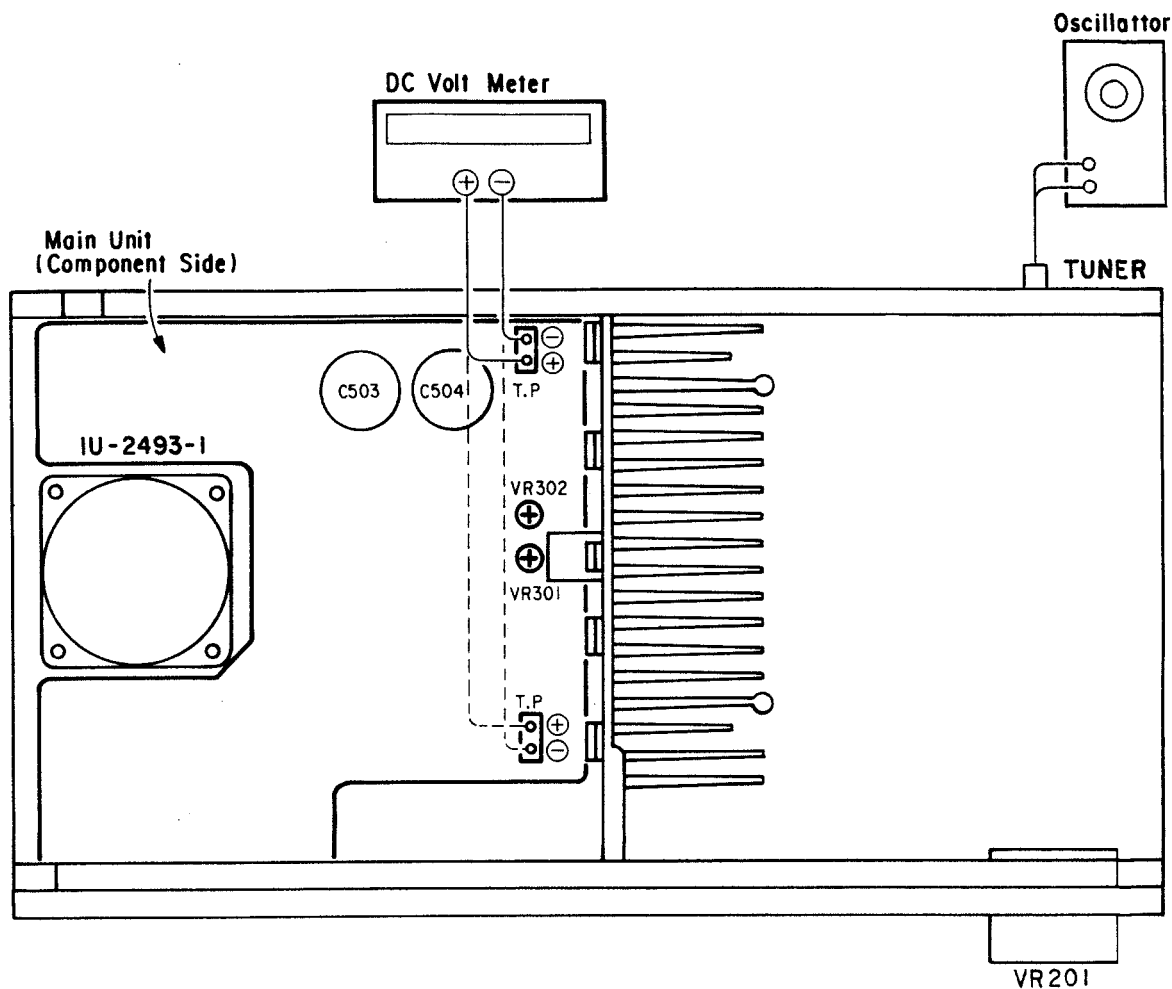
- 1) Remove 8 Knobs.
- 2) Remove 2 nuts and 4 screws (D).
- 3) Detach Inner Panel in arrow direction, undoing hooks at two places.



BLOCK AND LEVEL DIAGRAM





METHOD OF ADJUSTMENTS




IDLING CURRENT

● Setup

1. Lay the unit at an ordinary position away from a direct current from a cooler or fan. Do the adjustment at a temperature between 15°C (59°F) and 30°C (86°F).
2. Set controls as follows.
 POWER SWITCH → OFF ()
 VOLUME CONTROL → fully counterclockwise. () min. [Main volume (VR201) and Semifixed resistor (VR301...Lch, VR302...Rch)]
 SPEAKER Terminals → open: do not connect the speakers, dummy load etc.

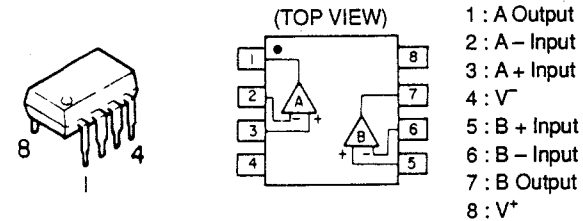
● Adjustment

1. Remove Top cover. And then connect DC Voltmeter to Test points of 1U-2493-1 (Main Unit).
2. Connect Power cord to AC wall outlet, and turn Power Switch "on" (). Within 10 seconds turn VR301 (Lch) and VR302 (Rch) clockwise so that the DC voltmeter reads 1.0 ± 0.2 mV DC.
3. Then after 2 minutes warmup adjust VR301 and VR302 so that the DC Voltmeter reads 3.0 ± 0.2 mV DC.
4. And after 10 minutes warmup adjust VR301 and VR302 so that the DC Voltmeter reads 3.0 ± 0.2 mV DC.
5. Apply a 1kHz, 10mVrms signal to both channels input and set the main volume (VR201) at maximum position.
6. Confirm that the indication of DC Voltmeter becomes 25 ± 10 mV DC.

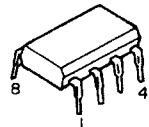
SEMICONDUCTORS

● IC's

NJM4558DD (IC201, 601)
M5218AP (IC001)

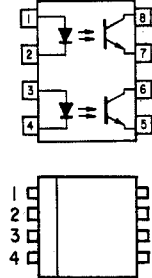


TLP521-2 (BL)(IC002)



1,3: Anode
2,4: Cathode
5,7: Emitter
6,8: Collector

(TOP VIEW)

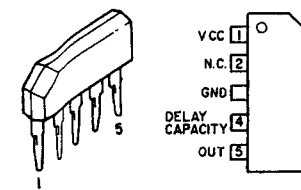


HD404304A013P (IC801)

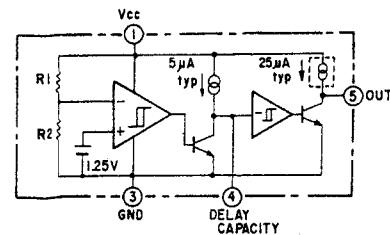
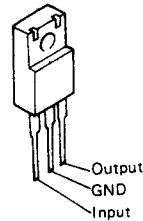
HD404304A013P Terminal Function

Pin No.	Name	I/O	Contents	Active
1	D10	O	MUTE/STANDBY LED Indication	H
2	TG0/D11	O	NOP	
3	TG1/D12	O	Power Control (REMOTE Power-ON/OFF)	L
4	Vdisp/RA1	I	NOP	
5	R00	O	NOP	
6	R01	O	Muting Control (Power ON-OFF, Function Shifting, MUTING)	L
7	R02	O	SP-A Control	H
8	R03	O	SP-B Control	H
9	R10	O		H
10	R11	O	Key scan strobe	H
11	R12	O		H
12	R13	O	NOP	
13	R20	I		
14	R21	I	Key scan receive	
15	R22	I		
16	R23	I		
17	R30	O	Volume Control "UP" → "H"	H
18	R31	O	Volume Control "DOWN" → "H"	H
19	INT0/R32	I	Power Breakdown detect input	
20	INT1/R33	I	Remote control signal decoding input	
21	GND		GND	
22	AVcc		Avcc (Vcc)	
23	R40/AN0	I	NOP	
24	R41/AN1	I	NOP	
25	R42/AN2	I	NOP	
26	R43/AN3	I	Discrimination port by user's genre	
27	AVss		AVss (GND)	
28	RESET		M51954A: External	
29	TEST		Vcc	
30	OSC1		Celler Fill Oscillator 4MHz: External	
31	OSC2		Celler Fill Oscillator 4MHz: External	
32	Vcc		Vcc	
33	D0	O	NOP	
34	D1	O	NOP	
35	D2	O	TAPE-2 Control	H
36	D3	O	TAPE-1 Control	H
37	D4	O	NOP	
38	D5	O	AUX Control	H
39	D6	O	TUNER Control	H
40	D7	O	NOP	
41	D8	O	CD Control	H
42	D9	O	PHONO Control	H

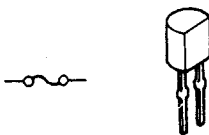
M51954AL (IC803)



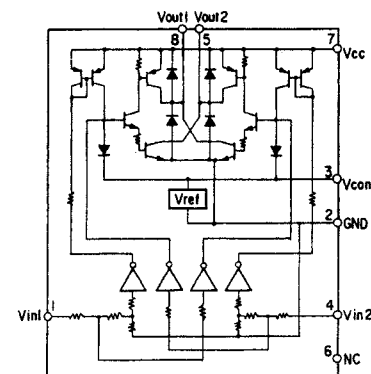
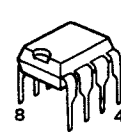
NJM7806FA (S)(IC502)



● IC PROTECTOR
ICP-N15 (IC501)

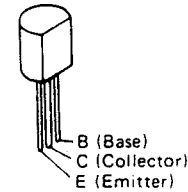


LB1639
(IC802)

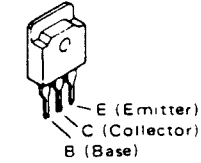


● TRANSISTORS

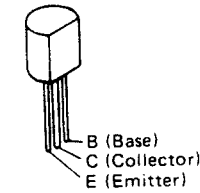
2SA988 (E/F)
2SC1841 (E/F)
2SA970 (BL)



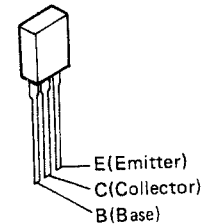
2SA1491 (O)/(P)/(Y)/Z
2SC3855 (O)/(P)/(Y)/Z



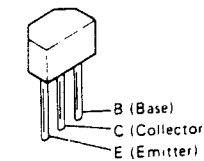
2SC4208A



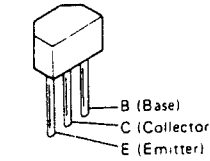
2SB1328 (P)
2SD2004 (P)



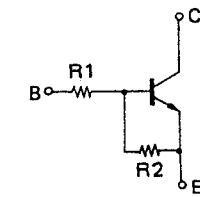
2SC2458 (BL)
2SA1048 (GR)



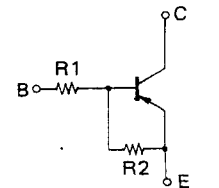
RN1202 (NPN)
RN2202 (PNP)



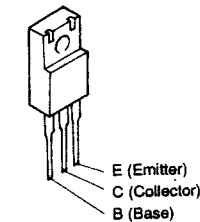
RN1202



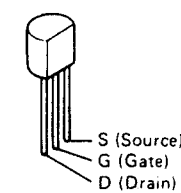
RN2202



2SB1274 (R/S)
2SD1913 (R/S)



2SK369 (BL)/(GR)-C
(FET)

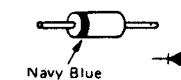


	R1	R2
RN1202	10 Kohm	10 Kohm

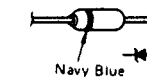
	R1	R2
RN2202	10 Kohm	10 Kohm

● DIODES (including LED)

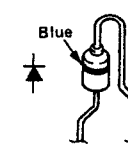
1SS2076A
1SS270A



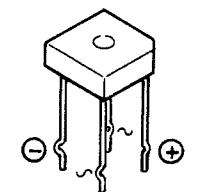
HZS7C-1
HZS16-1
HZS18-1
HZS27-1



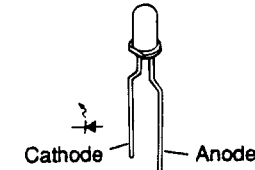
1SR35-200A



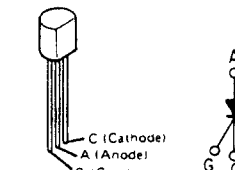
4D4B42 (LC1)



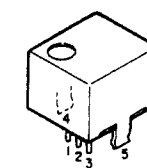
SEL-1810A (Orange)
SEL-1210S (Red)



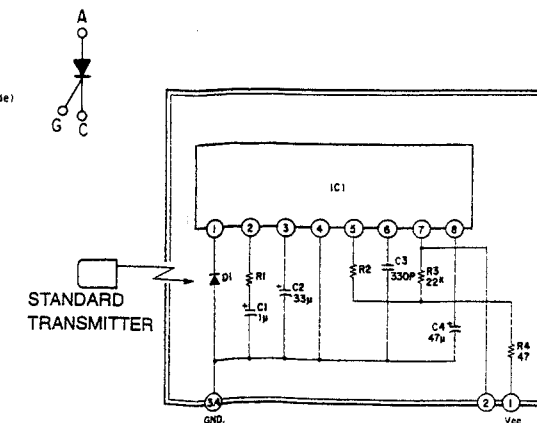
Thyristor
SFOR1A42



SBX1610-52 (Remote Control Receiver)



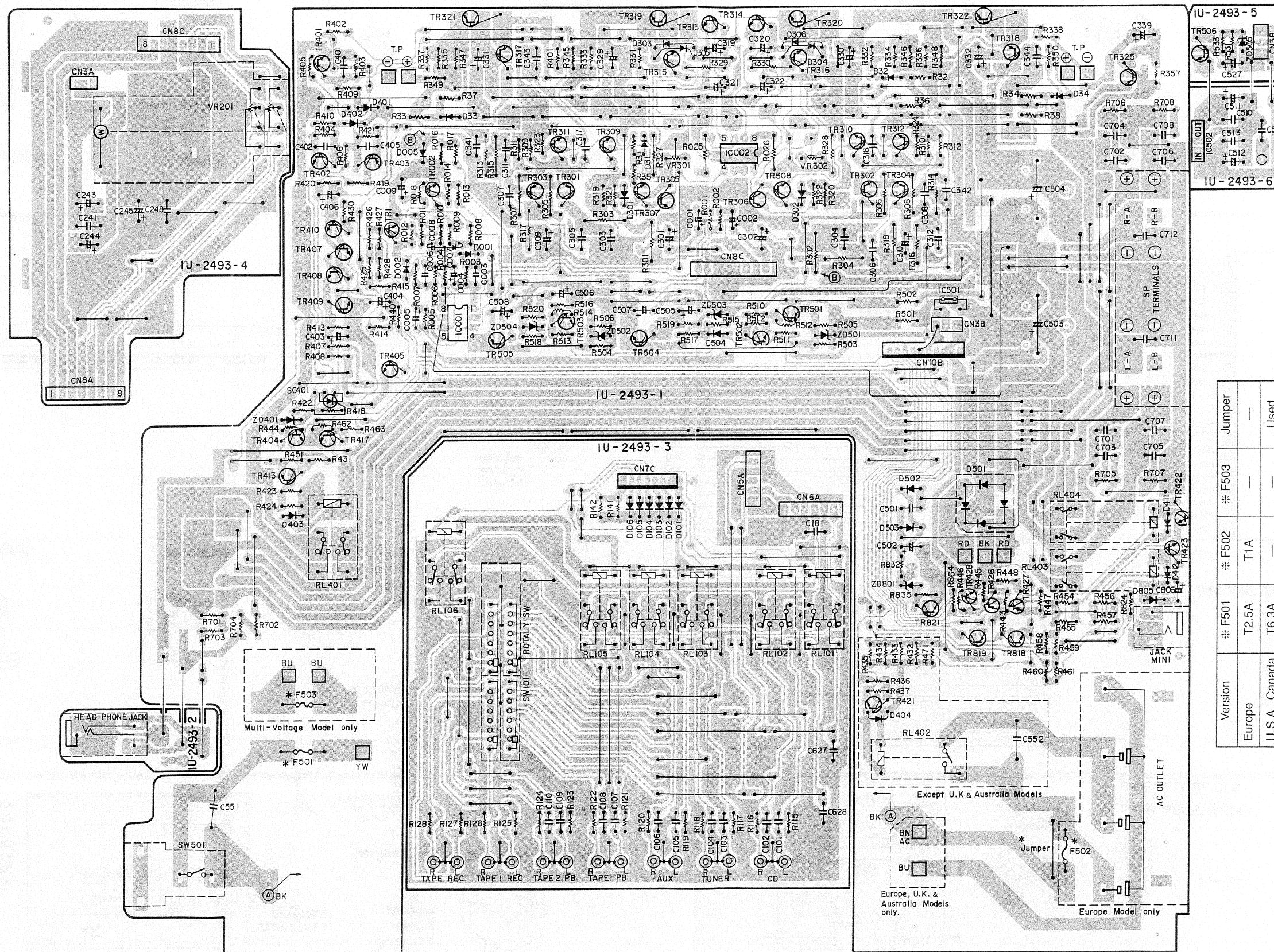
1. Vcc
2. Output
3. GND
4. Case Fin
5. Case Fin



IC1 : CX20106A Chip
D1 : PIN Photo Diode Chip
C1, C2, C4: Aluminum Electrolytic Capacitor
C3 : SL Characteristic: $\pm 5\%$
R1 : Gain Adjuster
R2 : f_0 Adjuster $\pm 1\%$ LSE
R3, R4 : $\pm 5\%$

PRINTED WIRING BOARD (Pattern Side)

1U-2493G MAIN UNIT ASS'Y

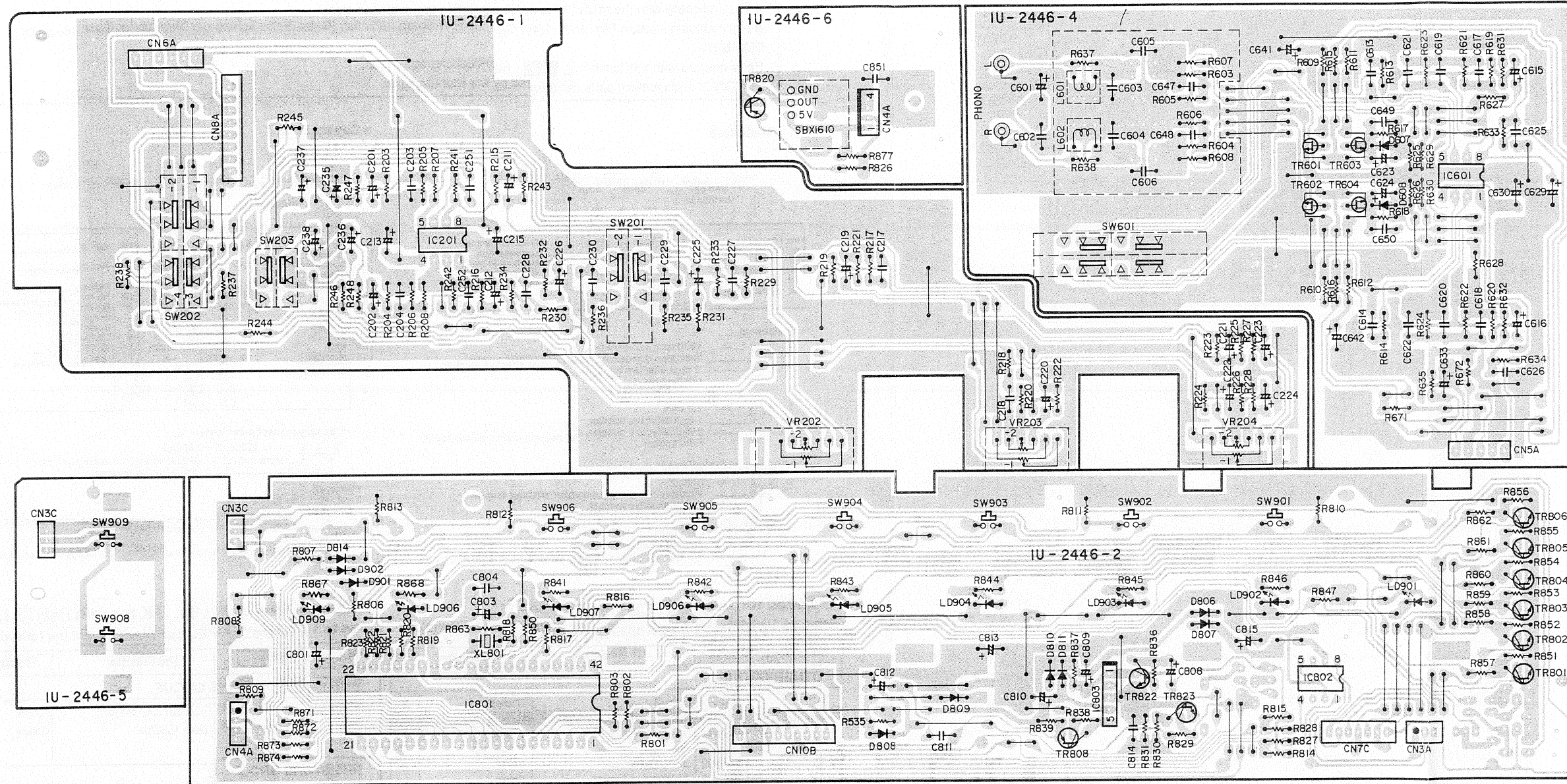


Version	⌘ F501	⌘ F502	⌘ F503	Jumper
Europe	T2.5A	T1A	---	---
U.S.A., Canada	T6.3A	---	---	Used
Multi-Voltage	T6.3A	---	T3.15A	Used
U.K. & Australia	T2.5A	---	---	Used

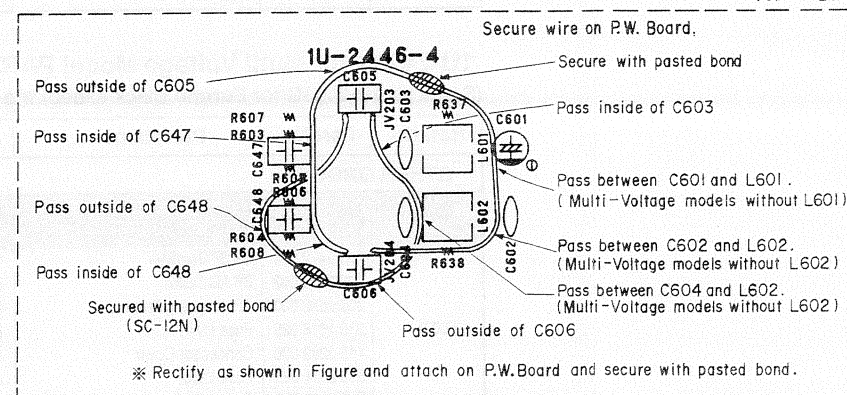
Version	Unit No.	F501	F502	F503	AC Outlet	H/P Jack	SP Terminal
Black for Europe	1U-2493G	T2.5A	T1A	—	203 3950 002	204 8354 004	205 0484 001
Gold for Europe	1U-2493H	T2.5A	T1A	—	203 3950 002	204 8355 003	205 0484 001
U.S.A., Canada	1U-2493L	T6.3A	—	—	—	204 8354 004	205 0472 013
Multi-Voltage	1U-2493K	T6.3A	—	T3.15A	—	204 8354 004	205 0472 013

1U-2446G CONTROL UNIT ASS'Y

Note : Wire rectification is necessary.
Rectify according to below.
(Component Side)



TOP VIEW



Version	Unit No.	R637, R638
Europe Black	1U-2446G	820ohm
Europe Gold	1U-2446G	820ohm
U.S.A., Canada	1U-2446J	Jumper
Multi-Voltage	1U-2446J	Jumper
Australia, UK	1U-2446J	Jumper

Version	L601, 602	R637, R638
Europe	150μH	820ohm
U.S.A., Canada	—	Jumper
Multi-Voltage	—	Jumper
Australia, UK	—	Jumper

NOTE FOR PARTS LIST

- Part indicated with the mark "◎" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "1" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.
- Not including Carbon Film $\pm 5\%$, 1/4W Type in the P.W.Board parts list. (Refer to the Schematic Diagram for those parts.)

WARNING:

Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

● Resistors

Ex.: RN 14K 2E 182 G FR
Type Shape and performance Power Resistance Allowable error Others

RD : Carbon	2B : 1/8W	F : $\pm 1\%$	P : Pulse-resistant type
RC : Composition	2E : 1/4W	G : $\pm 2\%$	NL : Low noise type
RS : Metal oxide film	2H : 1/2W	J : $\pm 5\%$	NB : Non-burning type
RW : Winding	3A : 1W	K : $\pm 10\%$	FR : Fuse-resistor
RN : Metal film	3D : 2W	M : $\pm 20\%$	F : Lead wire forming
RK : Metal mixture	3F : 3W		
	3H : 5W		

* Resistance

1 8 2 \Rightarrow 1800 ohm = 1.8 kohm
Indicates number of zeros after effective number.
2-digit effective number.
• Units: ohm

1 R 2 \Rightarrow 1.2 ohm
1-digit effective number.
2-digit effective number, decimal point indicated by R.
• Units: ohm

* Capacity (electrolyte only)

2 2 2 \Rightarrow 2200 μ F
Indicates number of zeros after effective number.
2-digit effective number.

• Units: μ F.
2 R 2 \Rightarrow 2.2 μ F
1-digit effective number.
2-digit effective number, decimal point indicated by R.
• Units: μ F.

● Capacitors

Ex.: CE 04W 1H 2R2 M BP
Type Shape and performance Dielectric strength Capacity Allowable error Others

CE : Aluminum foil electrolytic	0J : 6.3V	F : $\pm 1\%$	HS : High stability type
CA : Aluminum solid electrolytic	1A : 10V	G : $\pm 2\%$	BP : Non-polar type
CS : Tantalum electrolytic	1C : 16V	J : $\pm 5\%$	HR : Ripple-resistant type
CQ : Film	1E : 25V	K : $\pm 10\%$	DL : For charge and discharge
CK : Ceramic	1V : 35V	M : $\pm 20\%$	HF : For assuring high frequency
CC : Ceramic	1H : 50V	Z : $\pm 80\%$	U : UL part
CP : Oil	2A : 100V	-20%	C : CSA part
CM : Mica	2B : 125V	P : $\pm 100\%$	W : UL-CSA type
CF : Metallized	2C : 160V	-0%	F : Lead wire forming
CH : Metallized	2D : 200V	C : $\pm 0.25\mu$ F	
	2E : 250V	D : $\pm 0.5\mu$ F	
	2H : 500V	= : Others	
	2J : 630V		

* Capacity (except electrolyte)

2 2 2 \Rightarrow 2200 μ F = 0.0022 μ F
(More than 2) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: μ F.
2 2 1 \Rightarrow 220PF
(0 or 1) — Indicates number of zeros after effective number.
2-digit effective number.

• Units: PF.
• When the dielectric strength is indicated in AC, "AC" is included after the dielectric strength value.

1U-2493L for U.S.A., Canada PARTS LIST

(Same as 1U-2493G for Europe Black except the following Parts)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER GROUP				
	202 0040 909	Fuse Clip	Change	2
(F501)	206 1046 001	Fuse (3.3A/250V)	Change	1
	205 0472 013	8P SP Terminal	Change	1
	206 1015 029	Fuse (1AT)	Delete	-
	203 3950 002	3P AC Outlet	Delete	-
	205 0692 000	2P Wrapping Terminal	Delete	-
	513 2011 069	Fuse Label	Add	1

1U-2493K for Multi Voltage Model PARTS LIST

(Same as 1U-2493G for Europe Black except the following Parts)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER GROUP				
(F501)	206 1081 057	Fuse (6.3A/250V)	Change	1
(F503)	206 1061 028	Fuse (3.15A/250V)	Add	1
	205 0472 013	8P SP Terminal	Change	1
	203 3950 002	3P AC Outlet	Delete	-
	205 0692 000	2P Wrapping Terminal	Delete	-
(F502)	206 1015 029	Fuse (1AT)	Delete	-
	415 0299 000	Condenser Cover	Add	1
	513 2011 098	Fuse Label	Add	1
	513 2011 085	Fuse Label	Add	1

1U-2493J for Australia, U.K models PARTS LIST

(Same as 1U-2493G for Europe Black except the following Parts)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
SEMICONDUCTORS GROUP				
(TR421)	273 0235 923	Transistor 2SC1841 (E/F)	Delete	-
(D404)	276 0432 000	Diode 1SS270A	Delete	-
RESISTORS GROUP				
(R432-435)	244 2051 990	Metal Oxide 4.7kohm, 1W	Delete	-
(R471)	244 2051 990	Metal Oxide 4.7kohm, 1W	Delete	-
CAPACITORS GROUP				
(C552)	253 8003 713	Ceramic 4700pF/400V (AC)	Delete	-
OTHER GROUP				
	202 0040 909	Fuse Clip	Change	2
	205 0472 013	8P SP Terminal	Change	1
(F502)	206 1015 029	Fuse (1AT)	Delete	-
	203 3950 002	3P AC Outlet	Delete	-
(RL402)	214 0142 004	Relay (TV-5)	Delete	-

PARTS LIST OF P.W. BOARD
1U-2493G(Black), 1U-2493H(Gold) MAIN UNIT

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
SEMICONDUCTORS GROUP					RESISTORS GROUP				
IC001	263 0711 000	IC M5218AP		1	Not included Carbon Film $\pm 5\%$, 1/4W Type.				
IC002	262 0989 004	IC TLP-521-2 (BL)		1	(Refer to the Schematic Diagram for those Parts.)				
IC501	268 0073 905	IC ICP-N15	IC Protector	1	△R016-017	241 2379 916	Carbon Film 510ohm, 1/4W (N.B.)	RD14B2E511JNBS	2
IC502	263 0793 002	IC NJM7806FA(S)	Regulator+6V	1	R025.026	245 2096 903	Metal Film 15 Kohm, 1/4W	RN14K2E153G	4
TR001	273 0317 003	Transistor 2SC2458 (BL)		5	△R141	244 2052 957	Metal Oxide 5.6 Kohm, 1W (N.B.)	RS14B3A562JNBS(S)	1
TR002	273 0235 020	Transistor 2SA1841 (E/F)		18	△R142	244 2050 991	Metal Oxide 6.8 Kohm, 1W (N.B.)	RS14B3A682JNBS(S)	1
TR301-304	271 0094 016	Transistor 2SA970 (BL)		7	R301.302	245 2099 900	Metal Film 20 Kohm, 1/4W	RN14K2E203G	4
TR305.306	271 0131 021	Transistor 2SA988 (E/F)		5	R303.304	245 2060 900	Metal Film 470 ohm, 1/4W	RN14K2E471G	4
TR307-312	273 0235 020	Transistor 2SC1841 (E/F)		2	R305.306	245 2096 903	Metal Film 15 Kohm, 1/4W	RN14K2E153G	4
TR313.314	273 0380 001	Transistor 2SC4208A		2	R307.308	245 2060 900	Metal Film 470 ohm, 1/4W	RN14K2E471G	4
TR315.316	274 0151 000	Transistor 2SD2004 (P)		2	△R309-312	241 2380 963	Carbon Film 2.2 Kohm, 1/4W (N.B.)	RD14B2E222JNBS	4
TR317.318	272 0107 003	Transistor 2SB1328 (P)		2	R313.314	245 2036 905	Metal Film 47 ohm, 1/4W	RN14K2E470G	2
TR325	271 0131 021	Transistor 2SA988 (E/F)		1	R315.316	245 2099 900	Metal Film 20 Kohm, 1/4W	RN14K2E203G	2
TR401.402	273 0235 020	Transistor 2SC1841 (E/F)		1	R317.318	245 2046 908	Metal Film 120 ohm, 1/4W	RN14K2E121G	2
TR403	271 0094 016	Transistor 2SA970 (BL)		1	△R319-322	241 2377 976	Carbon Film 130 ohm, 1/4W (N.B.)	RD14B2E131JNBS	4
TR404.405	273 0235 020	Transistor 2SC1841 (E/F)		1	△R323.324	241 2315 967	Fusible 68 ohm, 1/4W (N.B.)	RD14B2E680GFRS	2
TR407	271 0191 003	Transistor 2SA1048 (GR)		1	R327.328	245 2083 903	Metal Film 4.3 Kohm, 1/4W	RN14K2E432G	2
TR408-410	273 0317 003	Transistor 2SC2458 (BL)		1	△R331.332	241 2378 920	Carbon Film 220ohm, 1/4W (N.B.)	RD14B2E221JNBS	2
TR413	271 0131 021	Transistor 2SA988 (E/F)		1	△R333-336	244 2043 982	Metal Oxide 0.22 ohm, 1W (N.B.)	RS14B3A22JNBS(S)	8
TR417	273 0235 020	Transistor 2SC1841 (E/F)		1	△R345-348	244 2043 982	Metal Oxide 0.22 ohm, 1W (N.B.)	RS14B3A22JNBS(S)	4
TR421-423	273 0235 020	Transistor 2SC1841 (E/F)		1	△R357	241 2379 987	Carbon Film 1 Kohm, 1/4W (N.B.)	RD14B2E102NBS	1
TR426.427	271 0094 016	Transistor 2SA970 (BL)		1	△R401-404	241 2380 950	Carbon Film 2 Kohm, 1/4W (N.B.)	RD14B2E202JNBS	4
TR428	273 0235 020	Transistor 2SC1841 (E/F)		1	△R423.424	244 2051 990	Metal Oxide 4.7 Kohm, 1W (N.B.)	RS14B3A472JNBS(S)	7
TR501	271 0131 021	Transistor 2SA988 (E/F)		1	△R432-435	244 2051 990	Metal Oxide 4.7 Kohm, 1W (N.B.)	RS14B3A472JNBS(S)	4
TR502.503	273 0235 020	Transistor 2SC1841 (E/F)		1	△R454-457	244 2052 902	Metal Oxide 2.7 Kohm, 1W (N.B.)	RS14B3A272JNBS(S)	4
TR504	274 0136 012	Transistor 2SD1913 (R/S)		2	△R471	244 2051 990	Metal Oxide 4.7 Kohm, 1/4W (N.B.)	RD14B3A472JNBS(S)	2
TR505	272 0093 010	Transistor 2SB1274 (R/S)		1	△R501.502	241 2387 940	Carbon Film 4.7 ohm, 1/4W (N.B.)	RD14B2E47JNBS	2
TR506	274 0136 012	Transistor 2SD1913 (R/S)		1	△R503-506	244 2051 929	Metal Oxide 820 ohm, 1W (N.B.)	RS14B3A821JNBS(S)	4
TR818	269 0025 008	Transistor RN1202 (10K-10K)	Built in Resistor	1	△R701-704	244 2050 933	Metal Oxide 180 ohm, 1W (N.B.)	RS14B3A181JNBS(S)	4
TR819	269 0026 007	Transistor RN2202 (10K-10K)	Built in Resistor	1	△R705-708	244 2043 937	Metal Oxide 10 ohm, 1W (N.B.)	RS14B3A100JNBS(S)	4
TR821	273 0317 003	Transistor 2SC2458 (BL)		1	VR201	211 0761 004	Variable Resistor 30 Kohm		1
D001.002	276 0432 000	Diode 1SS270A		22	VR301.302	211 6064 077	Semi Fixed Resistor 2 Kohm	V06PB202	2
D005	276 0432 000	Diode 1SS270A		1	CAPACITORS GROUP				
D031-034	276 0432 000	Diode 1SS270A		4	C001.002	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	10
D101-106	276 0432 000	Diode 1SS270A		1	C003	253 4536 006	Ceramic 10pF/50V	CC45SL1H100D	2
D301.302	276 0432 000	Diode 1SS270A		1	C004	254 4254 006	Electrolytic 10μF/16V	CE04W1C100M	6
D303-306	276 0049 011	Diode 1S2076A		1	C005	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	1
D401-404	276 0432 000	Diode 1SS270A		1	C006	253 4536 006	Ceramic 10pF/50V	CC45SL1H100D	1
D411.412	276 0432 000	Diode 1SS270A		1	C007	254 3036 034	Electrolytic 1μF/50V (Bipole)	CE04D1H010MBP	1
△D501	276 0424 005	Diode 4D4B42 (LC1)	Bridge	1	C008	254 3015 068	Electrolytic 22μF/25V (Bipole)	CE04D1E220MBP	1
D502-504	276 0553 905	Diode 1SR35-200A		3	C009	253 4263 987	Electrolytic 10μF/100V	CE04W2A100M	1
D805	276 0432 000	Diode 1SS270A		1	C101-110	253 4537 089	Ceramic 56pF/50V	CC45SL1H560J	10
ZD401	276 0466 005	Zener Diode HZS7C-1	7V	2	C181	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	5
ZD501.502	276 0482 005	Zener Diode HZS27-1	27V	2	C241	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	1
ZD503.504	276 0478 006	Zener Diode HZS18-1	18V	2	C243.244	254 4254 006	Electrolytic 10μF/16V	CE04W1C100M	1
ZD505	276 0477 007	Zener Diode HZS16-1	16V	1	C245	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	1
ZD801	276 0466 005	Zener Diode HZS7C-1	7V	1	C248	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	1
SC401	279 0016 001	Thyristor SF0R1A42		1	C301.302	254 4254 006	Electrolytic 10μF/16V	CE04W1C100M	1
					C303.304	255 6177 948	Plastic Film 100pF/50V	CQ09S1H101J(SMT)	2
					C305.306	255 6177 980	Plastic Film 220pF/50V	CQ09S1H221J(SMT)	2
					C307.308	255 4199 986	Plastic Film 0.001μF/50V	CQ92M1H102J(MRZ)	2
					C309.310	254 4252 066	Electrolytic 470μF/10V	CE04W1A471M	2

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
C311.312	253 4537 063	Ceramic 47pF/50V	CC45SL1H470J	2		203 0503 009	1P SIN Conn. Ass'y	I=180 (GY)	1
C317.318	253 4466 901	Ceramic 6pF/500V	CC45SL2H060D	2		203 0483 006	1P SIN Conn. Ass'y	I=90 (BK)	1
C319.320	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	1		001 0149 003	Vinyl Wire	I=180 (BN)	1
C321.322	254 4260 090	Electrolytic 22μF/50V	CE04W1H220M	2	CN5A	205 0666 052	5P Conn. Base (9130)		1
C329-332	254 4262 001	Electrolytic 4.7μF/63V	CE04W1J4R7M	4	CN8A	205 0667 080	8P Conn. Base-L (9130)		1
C339	254 4262 755	Electrolytic 100μF/63V	CE04W1J010MC	1	CN10B	205 0375 000	10P Conn. Base (KR-PH)		1
C341-344	253 1179 042	Ceramic 220pF/50V	CK45B1H221K	6	CN7C	205 0343 074	7P Conn. Base (KR-PH)		1
C401.402	253 1181 001	Ceramic 0.01μF/50V	CK45F1H103Z	6	CN3A	205 0343 032	3P Conn. Base (KR-PH)		1
C403	254 4250 042	Electrolytic 330μF/6.3V	CE04W0J331M	1	CN8C	205 0233 087	8P EH Conn. Base		2
C404	254 4252 037	Electrolytic 100μF/10V	CE04W1A101M	1	CN3B	205 0233 032	3P EH Conn. Base		1
C405	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	1		205 0692 000	2P Wrapping Terminal		1
C406	254 4252 008	Electrolytic 22μF/10V	CE04W1A220M	1					
C501	256 1042 000	Metalized 0.1μF/250V	CF93A2E104K	1					
C502	254 4263 013	Electrolytic 0.22μF/100V	CE04W2AR22M	2					
C503.504	254 6161 016	Electrolytic 12000μF/63V	CE68W1J123MC(DL)	2					
C505.506	254 4256 059	Electrolytic 220μF/25V	CE04W1E221M	2					
C507.508	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	1					
C510	253 1181 001	Ceramic 0.01μF/50V	CK45F1H103Z	1					
C511	254 4260 087	Electrolytic 10μF/50V	CE04W1H100M	1					
C512	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	1					
C513	253 1181 001	Ceramic 0.01μF/50V	CK45F1H103Z	1					
C527	254 4263 013	Electrolytic 0.22μF/100V	CE04W2AR22M	1					
C541	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	1					
△C551.552	253 8003 713	Ceramic 4700pF/400V	CK45E2GAC472MC	2					
C627.628	253 1179 042	Ceramic 220pF/50V	CK45B1H221K	1					
C701.702	256 1034 076	Metalized 0.1μF/50V	CF93A1H104J	4					
C703.704	255 6179 946	Plastic Film 0.0047μF/50V	CQ09S1H472J(SMT)	2					
C705.706	255 1251 940	Plastic Film 0.0047μF/50V	CQ92M1H472J(MRZ)	2					
C707.708	256 1034 076	Metalized 0.1μF/50V	CF93A1H104J	1					
C711.712	253 1181 001	Ceramic 0.01μF/50V	CK45F1H103Z	1					
C806	254 4254 006	Electrolytic 10μF/16V	CE04W1C100M	1					
OTHER GROUP									
	—	(P.W. Board)		(1)					
	202 0040 909	Fuse Clip		4					
	415 0309 055	P.V.C Tube (L=07)	for TR313.314	4					
SW101	212 0336 005	Rotary Switch	REC OUT	1					
△SW501	212 1103 004	Power Switch (TV-6)		1					
△F501	206 1015 032	Fuse (2.5A)		1					
△F502	206 1015 029	Fuse (1AT)		1					
RL101-106	214 0127 003	Relay (RY-12W)		7					
RL401	214 0127 003	Relay (RY-12W)		1					
△RL402	214 0142 004	Relay (TV-5)		1					
RL403.404	214 9003 005	Relay		2					
△	203 3950 002	3P AC Outlet		1					
	204 8260 004	Mini Jack		1					
	204 8266 008	4P Pin Jack (S-GND)		2					
	204 8278 009	6P Pin Jack (S-GND)		1					
	204 8354 004	Headphone Jack	Black Version	1					
	204 8355 003	Headphone Jack	Gold Version	1					
	205 0484 001	8P SP Terminal		1					
CN3B	203 4720 011	3P EH-SCN Conn. Cord	I=120	1					
CN6A	204 0333 023	6P EH-SCN Conn. Cord	I=140	1					
	203 0418 042	1P SIN Cord Ass'y	I=70	1					
	203 0502 039	1P SIN Conn. Ass'y	I=250 (BK)	1					

1U-2446G CONTROL UNIT

Ref. No.	Part No.	Part Name	Remarks	Q'ty
SEMICONDUCTORS GROUP				
IC201	265 0030 004	IC NJM4558DD	μ-Com	2
IC601	265 0030 004	IC NJM4558DD		
IC801	262 1579 303	IC HD404304A13P		1
IC802	263 0476 002	IC LB1639		1
IC803	263 0535 008	IC M51954AL		1
TR601-604	257 0038 045	FET 2SK369(BL)/(GR)-C	FET	4
TR801-806	273 0235 923	Transistor 2SC1841(E/F)	built in Resistor	6
TR808	271 0191 906	Transistor 2SA1048(GR)		1
TR820	269 0026 900	Transistor RN2202(10K-10K)		1
TR822,823	273 0317 906	Transistor 2SC2458(BL)		2
D607,608	276 0432 903	Diode 1SS270A		11
D806,807	276 0432 903	Diode 1SS270A		
D808,809	276 0432 903	Diode 1SS270A		
D810,811	276 0432 903	Diode 1SS270A		
D814	276 0432 903	Diode 1SS270A		
D901,902	276 0432 903	Diode 1SS270A		
LD901	393 9453 903	LED SEL1810A	Orange	3
LD902-907	393 9434 906	LED SEL1210S	Red	6
LD908,909	393 9453 903	LED SEL1810A	Orange	
RESISTORS GROUP				
Not included Carbon Film ±5%, 1/4W Type. (Refer to the Schematic Diagram for those Parts.)				
ΔR535	241 2387 940	Carbon Film 4.7ohm, 1/4W (N.B)	RD14B2E4R7JNBS	1
ΔR671,672	241 2377 905	Carbon Film 68ohm, 1/4W (N.B)	RD14B2E680JNBS	2
VR202-204	211 0762 003	Variable Resistor	3 Gang	1
CAPACITORS GROUP				
C201,202	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	8
C203,204	253 4537 089	Ceramic 56pF/50V	CC45SL1H560J	2
C211,212	254 4254 006	Electrolytic 10μF/16V	CE04W1C100M	4
C213	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	
C215	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	
C217,218	256 1034 018	Metalized 0.033μF/50V	CF93A1H333J	4
C219,220	254 4260 016	Electrolytic 0.22μF/50V	CE04W1HR22M	2
C221,222	254 4260 003	Electrolytic 0.1μF/50V	CE04W1H0R1M	6
C223,224	254 4260 032	Electrolytic 0.47μF/50V	CE04W1HR47M	2
C225,226	254 4260 029	Electrolytic 0.33μF/50V	CE04W1HR33M	3
C227,228	256 1034 050	Metalized 0.068μF/50V	CF93A1H683J	4
C229,230	256 1034 018	Metalized 0.033μF/50V	CF93A1H333J	
C235-238	254 4260 003	Electrolytic 0.1μF/50V	CE04W1H0R1M	
C251,252	253 1179 000	Ceramic 100pF/50V	CK45B1H101K	4
C601	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	
C602	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	4
C603,604	253 4537 053	Ceramic 47pF/50V	CC45SL1H470J	2
C605,606	253 1179 026	Ceramic 150pF/50V	CK45B1H151K	4
C613,614	255 1251 937	Plastic Film 0.0033μF/50V	CQ92M1H332J(MRZ)	2
C615,616	254 4254 006	Electrolytic 10μF/16V	CE04W1C100M	

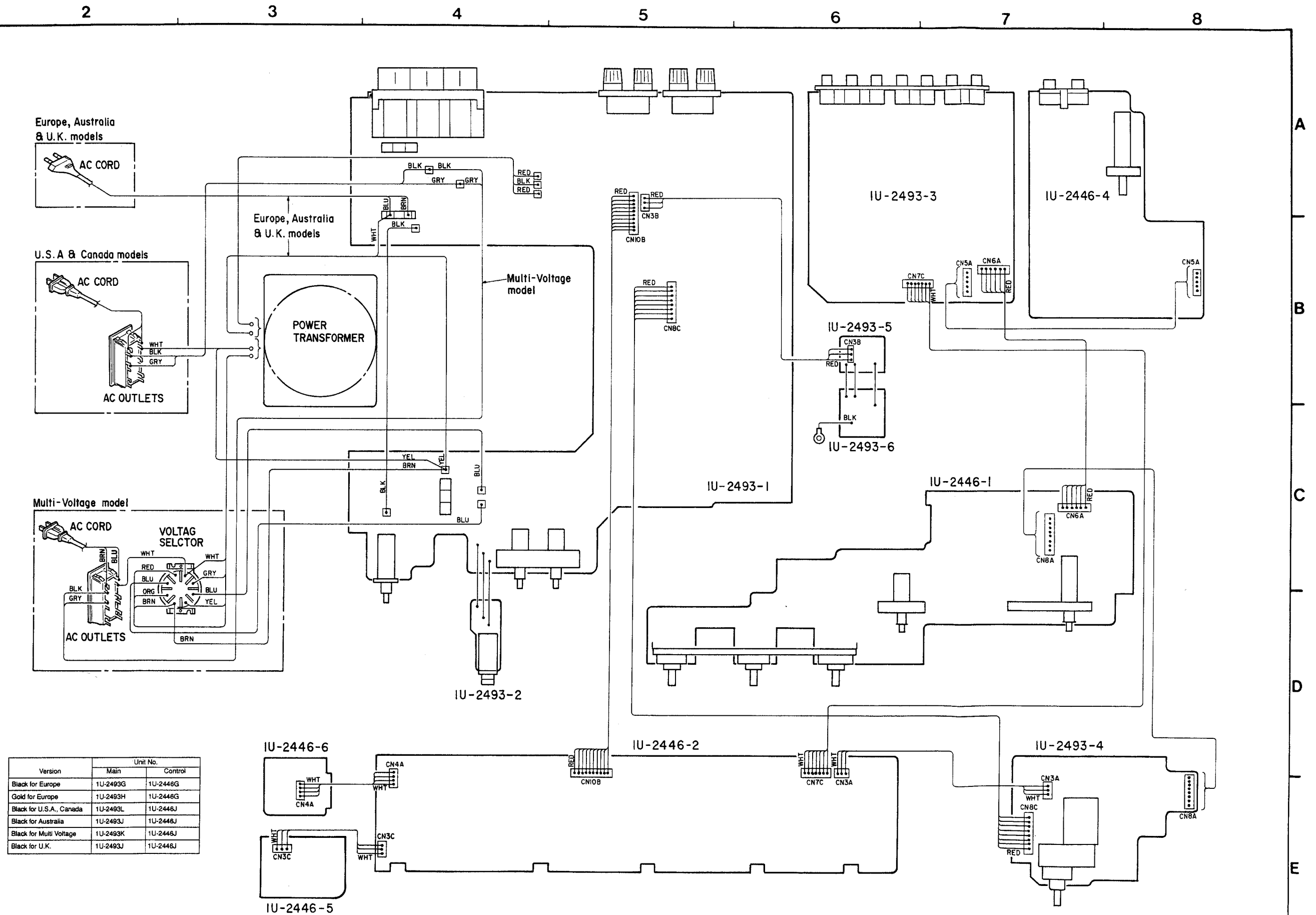
Ref. No.	Part No.	Part Name	Remarks	Q'ty
C617,618	256 1034 050	Metalized 0.068μF/50V	CF93A1H683J	
C619,620	255 6178 976	Plastic Film 0.0012μF/50V	CQ09S1H122J(SMT)	2
C621,622	255 4223 959	Plastic Film 0.018μF/50V	CQ92M1H183J(MRZ)	2
C623,624	254 4252 037	Electrolytic 100μF/10V	CE04W1A101M	3
C625,626	253 1179 068	Ceramic 330pF/50V	CK45B1H331K	2
C629,630	254 4256 033	Electrolytic 47μF/25V	CE04W1E470M	2
C633	254 4252 037	Electrolytic 100μF/10V	CE04W1A101M	
C641,642	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	
C647,648	253 1179 026	Ceramic 150pF/50V	CK45B1H151K	
C649,650	253 1179 000	Ceramic 100pF/50V	CK45B1H101K	
C801	254 4250 026	Electrolytic 100μF/6.3V	CE04W0J101M	3
C803	254 4250 026	Electrolytic 100μF/6.3V	CE04W0J101M	
C804	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	
C808	254 4260 074	Electrolytic 4.7μF/50V	CE04W1H4R7M	
C809	254 4260 045	Electrolytic 1μF/50V	CE04W1H010M	
C810	254 4260 029	Electrolytic 0.33μF/50V	CE04W1HR33M	
C811	256 1034 089	Metalized 0.12μF/50V	CF93A1H124J	1
C812	254 4250 042	Electrolytic 330μF/6.3V	CE04W0J331M	1
C813	259 0007 003	Back Up Cap.8200μF/5.5V	SBCAP-822=C	1
C814	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	
C815	254 4250 026	Electrolytic 100μF/6.3V	CE04W0J101M	
C851	253 1181 014	Ceramic 0.022μF/50V	CK45F1H223Z	
OTHER GROUP				
SW201	212 1097 000	(P.W.Board) 1P Push Switch	Loudness	(1)
SW202,203	212 1098 009	2P Push Switch	Sub, S.Direct	1
SW601	212 1041 001	1P Push Switch	MM-MC	1
SW901-906	212 5604 910	Tact Switch		8
SW908,909	212 5604 910	Tact Switch		
L601,602*	235 9003 002	FTZ Choke Coil		2
XL801	399 9018 003	Ceramic Vibrator		1
	499 0150 008	CST4.00MGW Remocon Receiver		1
	204 8413 000	2P Pin Jack (C-GND)	Phono	1
CN4A	203 6306 077	4P KR-DA Conn. Cord	I=150	1
CN3A	203 4808 014	3P KR-DA Conn. Cord	I=170	1
CN8A	205 0666 081	8P Conn. Base (9130)		1
CN5A	205 0667 051	5P Conn. Base-L (9130)		1
CN10B	205 0480 005	10P KR Conn. Base (L)		1
CN7C	205 0355 075	7P KR Conn. Base (L)		1
CN6A	205 0233 061	6P EH Conn. Base		1
CN4A	205 0343 045	4P Conn. Base (KR-PH)		1
CN3C	203 4579 000	3P DA-DA Conn. Cord		1
	001 0144 024	Vinyl Wire	Bk I=100	1
	001 0144 037	Vinyl Wire	Bk I=80	1

1U-2446J for U.S.A., CANADA, Multi-Voltage,
Australia and U.K. PARTS LIST

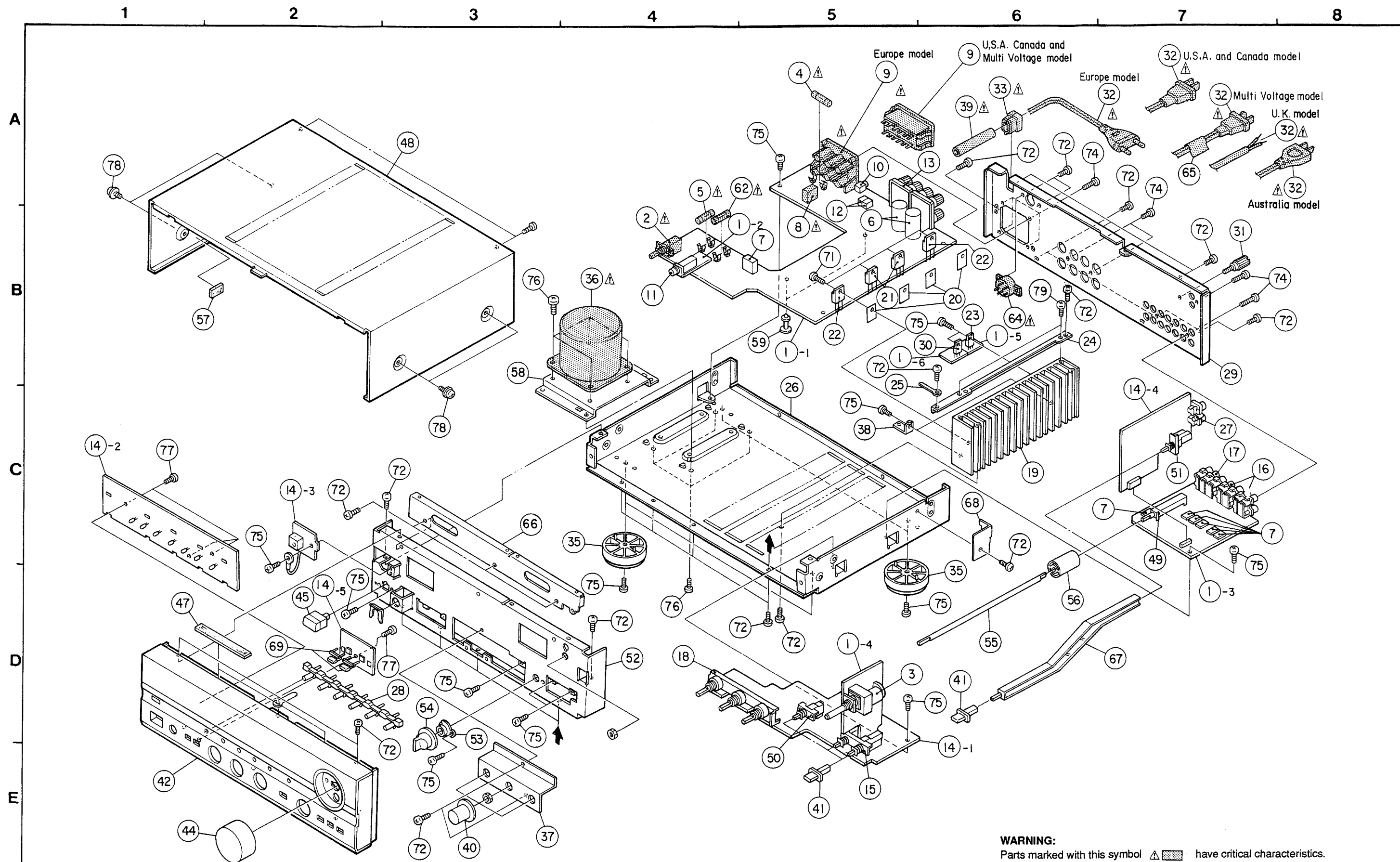
(Same as 1U-2446G for Europe Black except the following Parts)

Ref. No.	Part No.	Part Name	Remarks	Q'ty
OTHER GROUP				
(L601,602)	235 9003 002	FTZ Choke Coil	Delete	-

WIRING DIAGRAM



EXPLODED VIEW OF CHASSIS AND CABINET



WARNING:
Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

PARTS LIST OF EXPLODED VIEW

Ref. No.	Part No.	Part Name	Remarks	Q'ty	Ref. No.	Part No.	Part Name	Remarks	Q'ty
① * 1	Note	Main Unit Ass'y		1 ^S	* 48	Note	Top Cover		1
1-1	—	Main Unit		(1)	49	212 0336 005	Rotary Switch	Rec Out	1
1-2	—	H/P Unit		(1)	50	212 1097 000	1P Push Switch	Loudness	1
1-3	—	Input Unit		(1)	51	212 1041 001	1P Push Switch	MM-MC	1
1-4	—	M.Vol. Unit		(1)	① 52	411 1179 305	Front Chassis Ass'y		1
1-5	—	+16V Unit		(1)	53	119 0070 004	LOD Guide		1
1-6	—	+6V Unit		(1)	* 54	Note	Fuji Knob	Rec Out	1
⚠ * 2	212 1103 004	Power Switch (TV-5)		1	55	112 0642 208	VR Knob Joint(A)		1
3	211 0761 004	Variable Resistor	Main	1	56	112 0643 003	VR Knob Joint(B)		1
⚠ * 4	Note	Fuse 1A T	F502	1	57	461 0501 089	Rubber Sheet	20×20×T8	1
⚠ * 5	Note	Fuse	F501	1	58	412 9160 209	Trans Bracket		1
6	254 6161 016	Chemicon 12000μF/63V	C503,504	2	59	412 2814 057	Card Spacer		2
7	214 0127 003	Relay (RY-12W)		7	⚠ * 62	Note	Fuse	F503	1
⚠ * 8	Note	Relay (TV-5)	RL402	1	⚠ * 64	Note	Voltage Sel. Switch		1
⚠ * 9	Note	AC Outlet (3P)		1	66	412 3561 008	Support Bracket		1
10	204 8260 004	Mini Jack		1	67	113 1563 101	Push Knob Joint		1
* 11	Note	Head Phone Jack		1	68	412 3600 008	Stopper Bracket		1
12	214 9003 005	Relay	RL403,404	2	* 69	Note	Push Knob (TACT)		2
* 13	Note	8P SP Terminal		1	★ 82	204 2555 003	8P EH-EH Conn. Cord	CN8C	1
① * 14	Note	Control Unit		1 ^S	★ 83	204 2345 006	10P KR-KR Conn. Cord	CN10B	1
14-1	—	Control Unit		(1)	★ 84	204 2426 035	7P KR-KR Conn. Cord	CN7C	1
14-2	—	μ-Com Unit		(1)	SCREWS				
14-4	—	EQ. Unit		(1)	71	473 8007 009	Cup Screw 3×12		4
14-5	—	SP. Tact Unit		(1)	* 72	Note	Tapping Screw (S) 3×8	Black	24
14-6	—	Sensor Unit		(1)	73	—	—		
15	212 1098 009	2P Push Switch	S.Direct, SUBSONIC	1	* 74	Note	Fixing Screw		10
16	204 8266 008	4P Pin Jack (S-GND)		2	75	473 7002 018	Tapping Screw (S) 3×8		20
17	204 8278 009	6P Pin Jack (S-GND)		1	76	473 7004 003	Tapping Screw (S) 4×8		8
18	211 0762 003	Variable Resistor	3 Gang	1	77	473 7501 001	Tapping Screw (P) 3×10		4
19	417 0460 314	Power Radiator		1	* 78	Note	3P Swelling Screw		4
20	415 0234 007	Insulating Sheet		4	79	473 7500 044	Tapping Screw (S) 3×8	Black	2
21	273 0389 002	Transistor 2SC3855(O/P/Y)(Z)	TR319,320	2	PACKING & ACCESSORIES (Not included Exploded View)				
22	271 0240 006	Transistor 2SA1491(O/P/Y)(Z)	TR321,322	2	101	505 8006 019	Envelope		1
23	274 0136 012	Transistor 2SD1913(R/S)	TR506	1	102	511 2370 005	Inst. Manual		1
24	412 3526 108	Radiator Bracket		1	103	499 0247 005	Remote Control(RC-156)		1
25	445 0048 003	Cord Holder (L=76)		1	104	—	Battery	R6P/AA	2
26	411 1180 200	Main Chassis		1	105	504 9102 003	Styrene Paper		1
27	204 8413 000	2P Pin Jack (C-GND)		1	106	505 9102 006	Poly Cover		1
* 28	Note	Function Knob		1	107	504 0092 060	Styrene Paper	for AC Cord	1
* 29	Note	Rear Panel		1	108	503 1044 108	Cushion		2
30	263 0793 002	NJM7806FA(S)	IC502	1	109	501 1635 003	Carton Case		1
31	205 0071 016	Terminal Ass'y		1	110	—	—		
⚠ * 32	Note	AC Cord		1	111	513 1389 006	Control Card Base		1
⚠ * 33	445 0056 008	Cord Bush		1	112	513 1349 004	Thermal Carbon Film		1
* ★ 34	Note	Masking Sheet		1					
35	104 0194 001	Foot Ass'y		4					
⚠ * 36	Note	Power Trans		1					
37	412 3530 000	Volume Bracket		1					
38	412 3225 108	P.W.B. Bracket(A)		2					
⚠ * 39	Note	P.V.C. Tube	for AC Cord	1					
* 40	Note	Maru Knob(s)	Bass, Treble, Balance	3					
* 41	Note	Push Knob (KAKU)		4					
* 42	Note	Front Panel Ass'y		1					
★ 43	445 8004 007	Wire Clamper		8					
* 44	Note	VR Knob Ass'y		1					
* 45	Note	Power Knob Ass'y		1					
46	—	—							
47	461 0501 005	Rubber Sheet	100×8×T1 Put on F/P Upper	1					

ADDENDUM LIST

Ref. No.	Parts Name & Descriptions		Parts No.						
			Europe Black	Europe Gold	U.S.A.	Canada	Multi-Voltage	Australia	U.K.
● 1	Main Unit Ass'y	(1s)	1U-2493G	1U-2493H	1U-2493L	1U-2493L	1U-2493K	1U-2493J	1U-2493J
▲ 4	Fuse (F-502)	(1)	206 1015 029 (1AT)	206 1015 029 (1AT)	—	—	—	—	—
▲ 5	Fuse (F-501)	(1)	206 1015 032 T2.5A	206 1015 032 T2.5A	206 1046 001 T6.3A	206 1046 001 T6.3A	206 1061 057 T6.3A/250V	206 1015 032 T2.5A	206 1015 032 T2.5A
▲ 8	Relay (TV-5)	(1)	214 0142 004	214 0142 004	214 0142 004	214 0142 004	214 0142 004	—	—
▲ 9	AC Outlet (3P)	(1)	203 3950 002	203 3950 002	203 3926 007 (Polarized)	203 3926 007 (Polarized)	203 3926 007 (Polarized)	—	—
11	Headphone Jack	(1)	204 8354 004	204 8355 003	204 8354 004	204 8354 004	204 8354 004	204 8354 004	204 8354 004
13	8P SP Terminal	(1)	205 0484 001	205 0484 001	205 0472 013	205 0472 013	205 0472 013	205 0472 013	205 0472 013
14	Control Unit	(1s)	1U-2446G	1U-2446G	1U-2446J	1U-2446J	1U-2446J	1U-2446J	1U-2446J
28	Function Knob	(1)	113 1538 000	113 1538 013	113 1538 068	113 1538 000	113 1538 000	113 1538 000	113 1538 000
29	Rear Panel	(1)	105 1058 149	105 1058 149	105 1058 136	105 1058 136	105 1058 123	105 1058 110	105 1058 110
▲ 32	AC Cord	(1)	206 2063 009	206 2063 009	206 2060 002 (Polarized)	206 2060 002 (Polarized)	206 2054 005	206 2025 005	206 2024 103
★ 34	Masking Sheet	(1)	513 1144 005	513 1144 005	—	513 9224 008	—	—	—
▲ 36	Power Trans	(1)	233 5989 001	233 5989 001	233 5998 005	233 5998 005	233 5997 006	233 5996 007	233 5996 007
39	P.V.C. Tube	(1)	415 0305 017	415 0305 017	—	—	415 0305 017	415 0305 017	415 0305 017
40	Maru Knob	(3)	112 0646 000	112 0646 013	112 0646 000	112 0646 000	112 0646 000	112 0646 000	112 0646 000
	Bass, Treb., Balance								
41	Push Knob (KAKU)	(4)	113 1493 103	113 1493 116	113 1493 103	113 1493 103	113 1493 103	113 1493 103	113 1493 103
42	Front Panel Ass'y	(1)	144 2247 107	144 2247 116	144 2247 129	144 2247 107	144 2247 107	144 2247 107	144 2247 107
44	VR Knob Ass'y	(1)	112 0569 145	112 0569 158	112 0569 145	112 0569 145	112 0569 145	112 0569 145	112 0569 145
45	Power Knob Ass'y	(1)	113 1054 128	113 1054 131	113 1054 128	113 1054 128	113 1054 128	113 1054 128	113 1054 128
48	Top Cover	(1)	102 0521 005	102 0521 018	102 0521 005	102 0521 005	102 0521 005	102 0521 005	102 0521 005
54	Fuji Knob (Rec out)	(1)	112 0641 005	112 0641 018	112 0641 005	112 0641 005	112 0641 005	112 0641 005	112 0641 005
★ 60	Fuse Label	(1)	—	—	513 2011 069	513 2011 069	513 2011 098	—	—
★ 61	Fuse Caution Label	(1)	—	—	513 1796 084	513 1796 084	—	—	—
▲ 62	Fuse (F-503)	(1)	—	—	—	—	206 1061 028 T3.15A/250V	—	—
★ 63	Fuse Label	(1)	—	—	—	—	513 2011 085	—	—
▲ 64	Voltage Sel. Switch	(1)	—	—	—	—	212 9555 007	—	—
65	Preset Label	(1)	—	—	—	—	515 8030 008	—	—
69	Push Knob (Tact)	(2)	113 1492 201	113 1492 214	113 1492 201	113 1492 201	113 1492 201	113 1492 201	113 1492 201
★ 81	IC Caution Label	(1)	—	—	513 2046 005	513 2046 005	—	—	—
SCREWS									
72	Tapping Screw (s)3×8 Black		473 7015 018 (26)	473 7015 018 (20)	473 7015 018 (20)	473 7015 018 (20)	473 7015 018 (22)	473 7015 018 (20)	473 7015 018 (20)
74	Fixing Screw		477 0064 107 (10)	477 0064 107 (10)	477 0064 107 (6)	477 0064 107 (10)	477 0064 107 (10)	477 0064 107 (8)	477 0064 107 (8)
78	3P Swelling Screw	(4)	477 0263 005	477 0263 018	477 0263 005	477 0263 005	477 0263 005	477 0263 005	477 0263 005
PACKING & ACCESSORIES									
115	Color Label (Gold)	(2)	—	513 9111 001	—	—	—	—	—
116	DAI Warranty	(1)	—	—	515 0623 002	—	—	—	—
117	DCI Warranty Form	(1)	—	—	—	515 0627 008 LL-64064	—	—	—
118	CSA Label DCI	(1)	—	—	—	—	—	—	—
121									
122									

NOTE FOR PARTS LIST

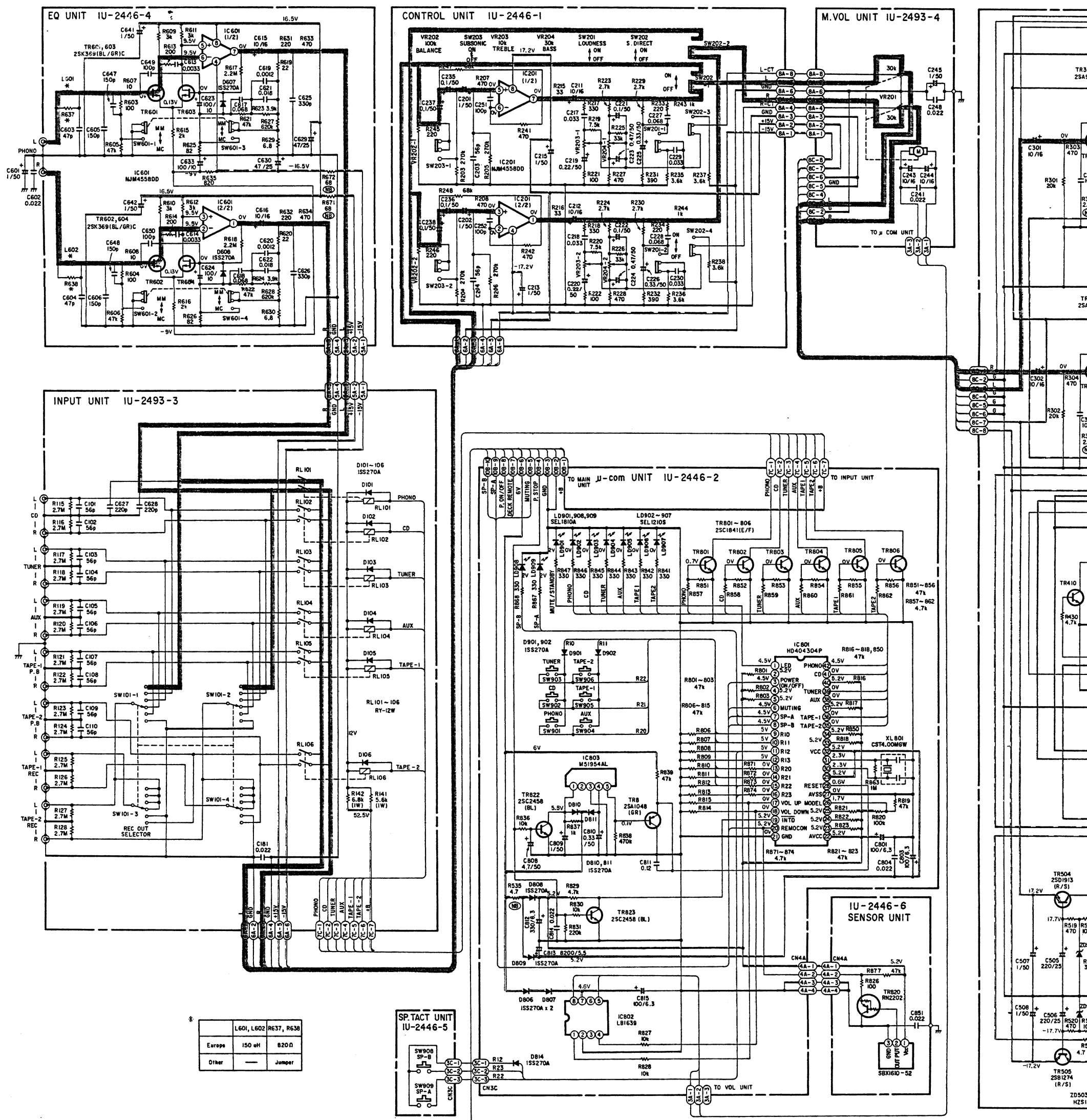
- Part indicated with the mark "●" are not always in stock and possibly to take a long period of time for supplying, or in some case supplying of part may be refused.
- When ordering of part, clearly indicate "1" and "1" (i) to avoid mis-supplying.
- Ordering part without stating its part number can not be supplied.
- Part indicated with the mark "★" is not illustrated in the exploded view.

WARNING:

Parts marked with this symbol ▲ have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

SCHEMATIC DIAGRAM

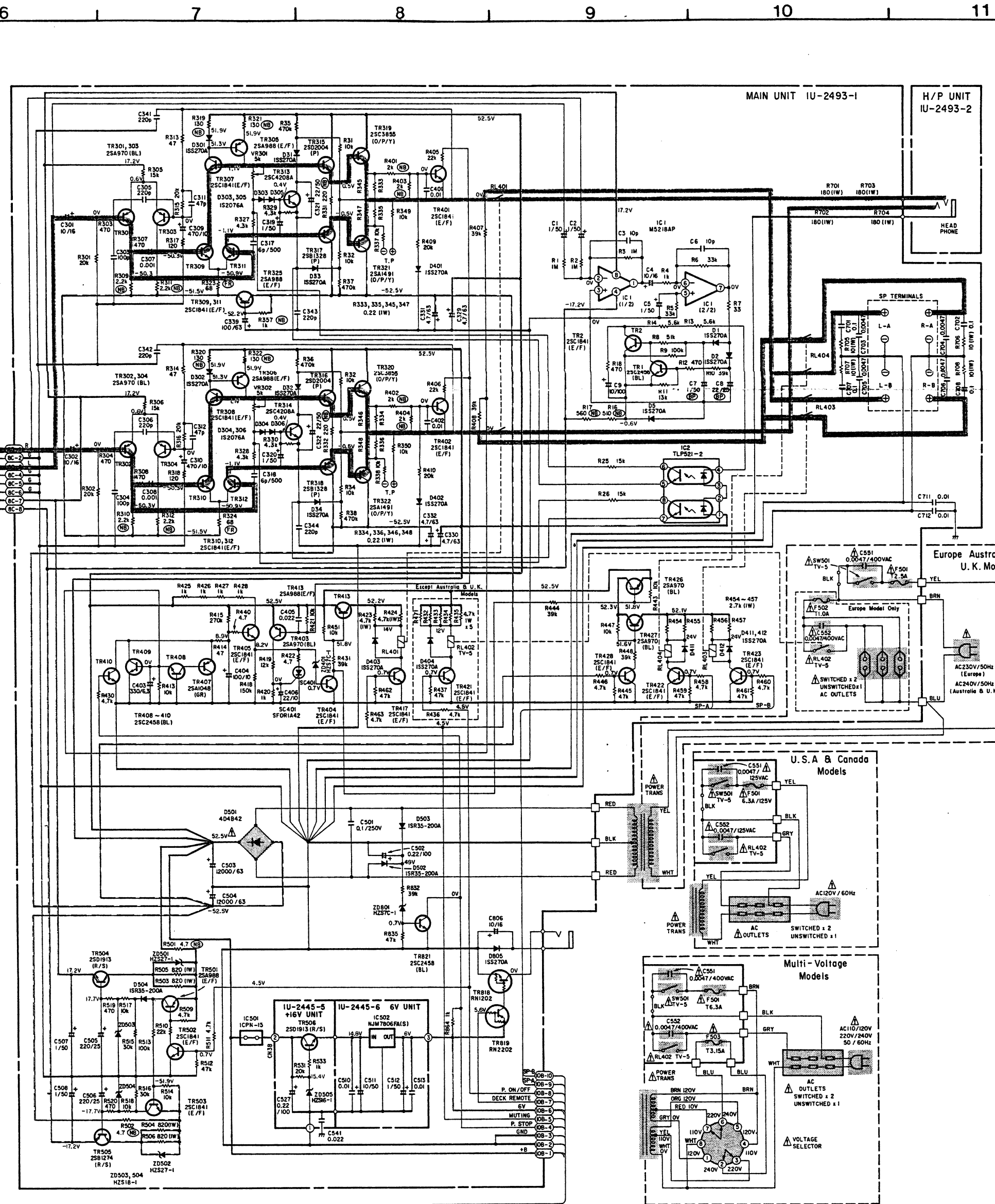
1 2 3 4 5 6



WARNING:
Parts marked with this symbol  have critical characteristics.
Use ONLY replacement parts recommended by the manufacturer.

CAUTION:
Before returning the unit to the customer, make sure you make either (1) a leakage current check or (2) a line to the leakage current exceeds 0.5 milliamps, or if the resistance from chassis to either side of the power cord is defective.

WARNING:
DO NOT return the unit to the customer until the problem is located and corrected.



ge current check or (2) a line to chassis resistance check. If
other side of the power cord is less than 240 kohms, the unit is

NOTES

ALL RESISTANCE VALUES IN OHM. K=1,000 OHM, M=1,000,000 OHM
ALL CAPACITANCE VALUES IN MICRO FARAD. P=MICRO-MICRO FARAD
EACH VOLTAGE AND CURRENT ARE MEASURED AT NO SIGNAL INPUT CONDITION.
CIRCUIT AND PARTS ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.

DENON

NIPPON COLUMBIA CO., LTD.

14-14, AKASAKA 4-CHOME, MINATO-KU, TOKYO 107-11, JAPAN

Telephone: 03 (3584) 8111

Cable: NIPPONCOLUMBIA TOKYO Telex: JAPANOLA J22591